

ANNUAL REPORT

Canada. Dept. of Marine



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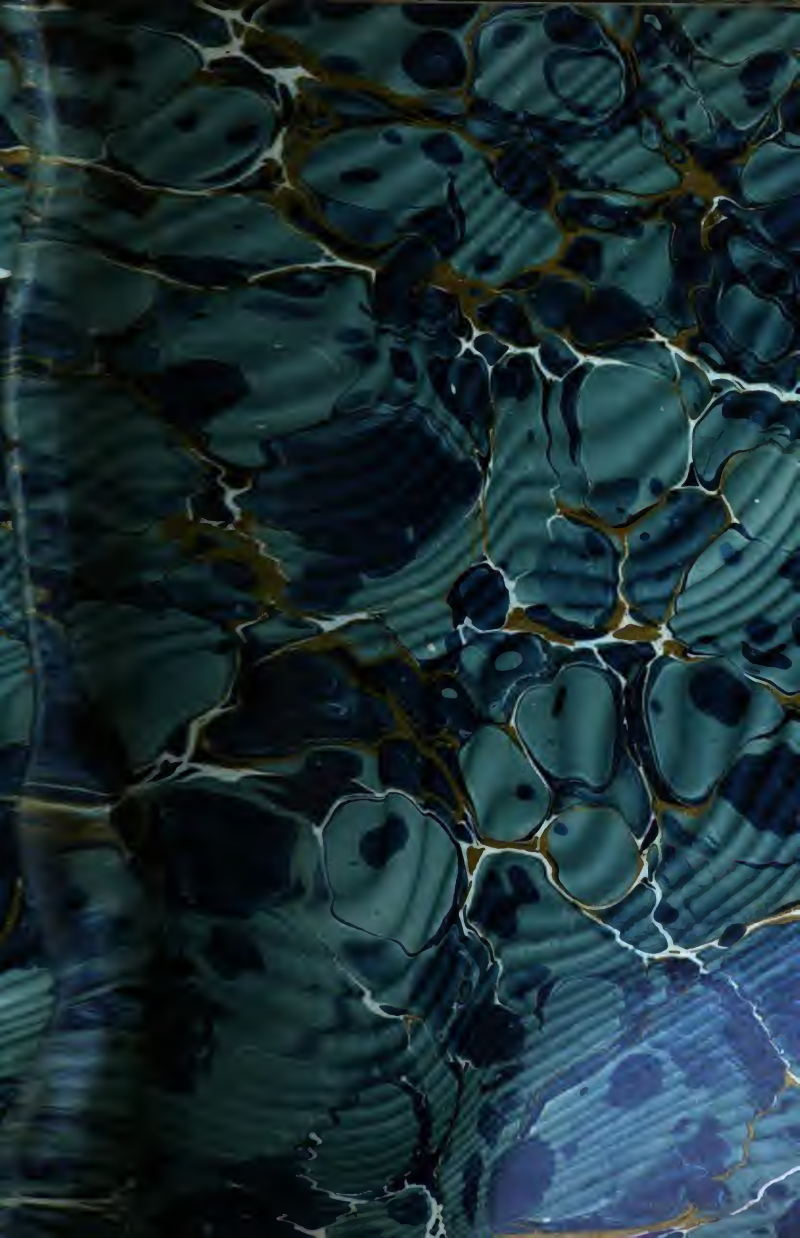
DANIEL B. FEARING

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ANNUAL REPORT

OF THE

DEPARTMENT

OF

MARINE AND FISHERIES

FOR THE YEAR ENDING THE 30th JUNE, 1872.

PRINTED BY ORDER OF PARLIAMENT.



OTTAWA.

PRINTED BY J. M. GUTHRIE, AT THE "GUTHRIE PRESS," 10, DUNDAS STREET, WEST.

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DANIEL B. FEARING
30 JUNE 1915

FIFTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES,

FOR YEAR ENDED 30th JUNE, 1872.

To His Excellency the Right Honourable Sir Frederic Temple, Earl of Dufferin, Viscount and Baron Clandeboye of Clandeboye in the County Down, in the Peerage of the United Kingdom, Baron Dufferin and Clandeboye of Ballyleidy and Killeleagh in the County Down, in the Peerage of Ireland, and a Baronet, one of Her Majesty's Most Honourable Privy Council, Knight of the Most Illustrious Order of Saint Patrick, and Knight Commander of the Most Honourable Order of the Bath, Governor-General of Canada, and Governor and Commander-in-Chief in and over the Island of Prince Edward, Vice Admiral of the Dominion of Canada, and of the Island of Prince Edward, &c., &c., &c.

MAY IT PLEASE YOUR EXCELLENCY,

I have the honour to submit herewith, for the information of Your Excellency and the Legislature of Canada, the Fifth Annual Report of the Department of Marine and Fisheries, and the financial statements connected therewith, for the fiscal year ended 30th June, 1872.

Although the financial statements of the Department in the appendices of this report are made up, as required by law, to the 30th of June last, the report will contain an account of many of the operations of the Department up to the end of the calendar year which ended yesterday.

The business of this Department has continued gradually to increase since its formation on the 1st July, 1867, owing to the extension of the Dominion, and to the increased number of services administered by it.

The administration of the Fishery branch of the Department has, during the last five years, been a source of great anxiety to me, and was productive of a large amount of correspondence, not only with the authorities interested in the question of our deep sea and inshore fisheries outside of the Dominion, but also with the numerous officers who

were employed by the Department in the delicate duty of protecting our valuable fishing grounds from the encroachments of those who were not legally entitled to participate in them.

The construction of the new lighthouses of the Dominion which was originally vested in the Department of Public Works, but which is now administered by this Department, has also much increased the duties of myself and officers, as well as increased the correspondence of the Department, as many of such works are situated at very inaccessible and remote places on the sea coast and lakes, and require a great amount of vigilant supervision during their construction. The Act 33 Vic. cap. 18, merely gives authority to the Minister of Marine and Fisheries to construct such lighthouses and other public works connected with his Department as the Governor in Council may direct, but since the passing of this Act, all the lighthouses, lightships, and steam fog whistles which have been erected or placed in Canada have been built under the superintendence of this Department. The number of new lighthouses, including those on the sea coast, inland lakes and rivers, and four new light ships which have been established since the date of Confederation, and also including a few in Nova Scotia which were under contract at that time, and those now under contract is 142. In addition to those new lights some old ones have been rebuilt and improved, and 18 steam fog whistles have also been added (including those in course of construction) to the navigation securities on our sea coast. Large numbers of buoys have also been laid down on our coasts and inland waters since the formation of this Department.

The administration of all questions in connection with the examination of masters and mates, and the granting of certificates of competency and service, has also added much to the duties of the Department during the last eighteen months, but the introduction of the system into Canada, and the recognition in England and elsewhere of the certificates of competency granted by the Canadian Government has been most successful, and also beneficial to the interests of Canada, while it has been the means of placing our educated seafaring men in their proper position in the United Kingdom while visiting that country in their vessels. Previous to the introduction of this system into Canada, and the recognition by the British Government of certificates of competency granted by this Department, it frequently happened that when our shipmasters and mates arrived in England with their vessels, of which they might probably be part owners, they found they could not pass the required examination in time to leave with them, and as all British ships clearing for foreign voyages were required to have masters and mates possessing certificates of competency granted by the British Government, they were under the necessity of giving up the charge of their ships to others who had such certificates, and they were thus made to feel that their position as Colonists was inferior to that of British shipmasters; while it was well known and acknowledged in all large shipping communities throughout the British dominions that the seafaring men of the British North American Colonies were equal in intelligence, efficiency and sobriety to those of the United Kingdom or any other maritime country. All this is now changed, and when our young Canadian shipmaster, who has passed the required examination in Canada,

proceeds to the United Kingdom in command of his ship, enters her, discharges, and after loading for a foreign port, makes the proper application for his clearance outwards at the Custom House, and in reply to the usual enquiry as to his certificate of competency, he produces the important document granted by this Department, and with a feeling of honest pride, he says "I am a Canadian, and here is my certificate of competency," he finds to his satisfaction that the document alluded to is recognized and respected in England just as much as if it had been granted in London.

Another important branch of this Department, the administration of which requires much care, conciliation and firmness, is the inspection of all the steamboats, with their boilers and machinery, belonging to the Dominion; and as they have been rapidly increasing of late years until they now amount in number to 473, and as not only large numbers of our inhabitants are constantly travelling in these boats during the summer season, but also many strangers from the neighboring Republic and other countries, who are attracted here by our fine climate and beautiful scenery, it is of the greatest importance that the inspection should be carried out in the most thorough and impartial manner, and that it should command the confidence both of the steamboat owners and the travelling public. The examination of the engineers who manage the boilers and engines of these steamboats has now also assumed large proportions, and is a matter of as much importance as the examination of the boilers and engines. The number of steamboat engineers of the different grades who have succeeded in obtaining certificates of competency during the last year is 741, and the demand for them is still increasing. Great anxiety and responsibility is connected with the whole of this branch of the Department, as questions are constantly arising between the Inspectors, the steamboat owners and the engineers, which require careful consideration and attention; and it is a matter of much gratification to my Department that this service has been so successfully administered, and that so very few accidents have occurred during the last five or six years, when we take into consideration the number of steamboats and engineers to be examined, and the extent of sea coast and inland waters over which these steamers are running.

The administration of the laws relating to shipping and discharging of seamen is also entrusted to this Department, and as "crimping" is a matter which comes under this head, it has been found to be one of the most difficult subjects which the Department has been called on to administer, and I regret to state, with reference to the port of Quebec, that all the efforts which the Department has made to stop, or even check the nefarious system, have not as yet proved successful. The term "crimping," as is well known to all shipowners and seafaring men, means simply stealing or inveigling sailors away from the ships to which they are legally engaged, for the purpose of disposing of them, at a large profit, to other ships which are requiring sailors to enable them to proceed to sea. As the business of crimping is very remunerative to the class of persons who engage in it, the Department has found it very difficult to devise measures to stop it, as unprincipled men will always be found who will incur any amount of risk to make money out of any traffic, no matter what the evil and demoralizing effects may be to those of their fellow men who may be the victims of their rapacity. Crimps and their agents have been in the habit of

stealing on board ships at night lying in the harbour of Quebec, and when they have failed in persuading their intended victims to desert their ships and go with them, they have resorted to intimidation and violence, sometimes assaulting the master and officers of the ship, as well as the men whom they were desirous to take away with them; and in one case last spring, a sailor who refused to desert with some of these villains, was shot dead in the forecabin of his ship in the middle of the night, and before the alarm was given the murderer escaped, and has not yet been found, although a large reward was offered for his apprehension and conviction. The harbour of Quebec is so extensive, and the spring fleet of vessels which arrive there is so numerous, spread over such a large extent of ground, that it would require a large army of water policemen to entirely prevent crimps from boarding vessels at night during the early part of the season. The water police force was largely increased last season after the murder alluded to was committed, and it is my intention to recommend that provision be made to enable the Department to employ, during the early part of next season, a much larger force on the river than formerly, and to provide for an efficient patrol at night, both on the wharves and on the river. An Act was passed two years ago by the Canadian Parliament at my instance, substituting imprisonment in place of fines for crimping and other offences in connection therewith, and so far it has worked well, although it has been found to be scarcely stringent enough to deter persons from engaging in this unlawful occupation. It had the effect, however, of preventing many of the crimps from boarding vessels, but it did not prevent them from hiring other persons called "runners," to go on board vessels and entice their crews to desert. It is my intention to recommend that several alterations be made in the laws respecting this important subject, which in my opinion will tend, along with an increase of the force, to effectually check, and even put a stop to the nefarious traffic.

The subject of meteorological observations in the Dominion is also under the supervision and management of this Department, and although considerable efforts have been made to perfect a system by which weather prognostications and storm signals can be made public, particularly at our sea and lake ports, still the system is very far from complete. The extent of the Dominion is so great, and the number of observers required to complete and perfect the system so large, and the amount voted by Parliament comparatively so small, that it was found to be impossible to send notice of approaching storms or weather forecasts to the principal sea ports unless the local authorities or Boards of Trade were willing to defray the cost of the telegrams. The amount voted was only \$10,000 for the whole service in Canada, including the salaries of observers at chief stations, the purchase of instruments, and the cost of telegrams between stations in Canada, and between stations in the United States and Canada. As the system of daily weather telegrams has been found to be so useful in the United States, both to the marine and agricultural interests, I am of opinion that the system in Canada should be still further extended, and storm signals established at the principal sea ports and lake ports of the Dominion. But in order to accomplish this, a large vote would be required, and until that can be obtained, the system cannot be developed beyond its present limits.

Before proceeding with the details of my Report I may briefly enumerate the different branches of the public service administered by the Department over which I have the honour to preside :—

1. The maintenance of lighthouses, lightships, steam fog whistles, buoys and beacons.

2. The construction of such of the new lighthouses and piers in connection therewith, steam fog whistles, light vessels, &c., as may be directed by the Governor in Council.

3. Supervision of Trinity Houses, and pilotage.

4. The steamers belonging to the Dominion not employed for warlike or defensive purposes.

5. The river and harbour police.

6. Humane establishments for shipwrecked mariners, marine hospitals, and care of sick and distressed seamen, and shipwrecked crews.

7. The working and supervision of the Acts for the inspection of steamboats, and the Board of Steamboat Inspectors.

8. Certificates of competency and service to masters and mates.

9. Wreck returns and investigation into wrecks.

10. Rewards for saving life at sea.

11. Meteorological observations, observatories and time balls.

12. Shipping masters and their offices.

13. Subsidies to steamers not coming under the administration of the Post Office Department.

14. Supervision of funds collected for improvement to harbours.

15. Supervision of Harbour Commissioners, and Harbour Masters appointed by the Dominion Government.

16. Administration of the fishery laws.

17. Establishment and control of numerous agencies in the several Provinces for local supervision and protection of the deep sea, estuary, river and lake fisheries.

18. Leasing and licensing fishery privileges.

19. Regulation and preservation of the sea coast and inland fisheries.

20. Improvement of streams, and restoring waters to their natural productiveness.

21. Cultivation of fish by artificial means.

22. Marine police, and guarding inshore fisheries against foreigners ; enforcement of treaty stipulations regarding fisheries with Americans, and generally all matters relating to the marine interests of the Dominion, not included in the foregoing list, and not administered by any other Department.

The total amount expended by this Department on the various branches of the public service administered by it during the fiscal year ended 30th June last, was \$642,591.08, while the amount voted was \$698,516.65. The total number of persons on the outside staff of the Department during last year was 1,035.

I will now proceed to report on the construction of new lights of the Dominion and the maintenance of the lights hitherto established.

ONTARIO DIVISION.

This division, for the sake of convenience in superintending it, extends from the lighthouse at Lachine on Lake St. Louis, to the lights in Lake Superior, including those on the Ottawa River. In my last annual report I alluded to two beacon lights which were recently erected at Point L'Original and McTavish Point, on the Ottawa River, a short distance above Grenville, both on the catoptric principle, with two flat wicks lamps each, and fifteen-inch reflectors. They were lit for the first time on the 10th October, 1871, and the total cost of construction and equipment appears in the accounts of the Department for the last fiscal year, viz, \$1,055.85. In my last annual report it was stated that the new lighthouse on Telegraph Island, Bay of Quinté, had cost for construction and equipment \$1,991.35, but since then a further expenditure of \$125 was made on account of it, making the total cost of construction and equipment \$2,116.35.

A substantial new lighthouse, with keeper's dwelling combined, was recently erected at Salmon Point, in the County of Prince Edward, on Lake Ontario, as wrecks have occasionally occurred there, some of which were attended with loss of life. It is a square wooden tower, and the light is a powerful red one on the catoptric principle, and has been seen a distance of upwards of fourteen miles. There are two No. 1 circular burner lamps with 20-inch reflectors, and three mammoth burner flat-wick lamps with 18-inch reflectors, and the light was lit for the first time on the 23rd of October, 1871. Mr. Lewis Hudgins was appointed keeper, at a salary of \$300 per annum, which includes remuneration for his services in connection with the lifeboat stationed there under his charge. The total cost of construction of this lighthouse, keeper's dwelling and equipment, was \$1,913.71.

A new light was recently erected at Middle Island, Lake Erie, near Pelee Island, but as it was not finished at the close of the last fiscal year, the total cost of construction will not appear until the close of the current fiscal year. The sum of \$1,300 was, however, paid on account of the contract previous to the 30th June last. It is a powerful red light on the catoptric principle, having three No. 1 circular burner lamps and 20-inch reflectors, and three mammoth flat-wick lamps with 16 inch reflectors, and will probably be seen at a distance of fourteen miles. The building is a square wooden tower with octagonal top, and is painted white. The light was exhibited for the first time on the 17th September, 1872.

The amount of \$8,000 was voted by Parliament for the construction of new lights in Lake Superior to assist our rapidly expanding trade in that direction, and a contract was accordingly made for the erection of three, viz: one at Porphyry Point and two at Michipicoten Island. At the close of the fiscal year, however, they were not nearly finished, and the amount of \$772.50 had only been expended on them up to that time. The balance of cost of construction will appear in the returns of this Department for the current fiscal year, as they are now nearly finished, and the two lights at Michipicoten Island have been in operation for some time this autumn previous to the close of navigation. A contract has been made for the erection of a large powerful light at Batchewana Bay,

near the eastern entrance of Lake Superior, as also for a minor light at Point aux Pins, at the western entrance of the Sault Ste. Marie. A contract has also been made for a new light on Cockburn Island, for the purpose of leading vessels through the Mississaga Straits at the head of Lake Huron. A contract has also been made for the erection of a new light in Owen Sound, for the accommodation of the local trade of that locality. A contract has also been made for two new lighthouses on the St. Lawrence River—one at Glengarry or Burnt House Point, and the other on Hamilton's Island—both of them a short distance below Cornwall. A contract has also been made for a new lighthouse and pier near Point aux Anglais, in the Ottawa River, a short distance below Carillon. A contract has also been made for the construction of three minor lights on the Upper Ottawa, all of which will probably be completed before the close of the present fiscal year, and the expenditure for these lights will appear in the returns for that year. A large new fog bell, weighing about one thousand pounds, and worked with clock work machinery, was erected a short time since on Gibraltar Point, near the entrance to Toronto Harbour, for the purpose of assisting vessels to make their way into the harbour during thick or foggy weather. Another fog bell of similar size will shortly be erected on Simcoe Island, for the purpose of guiding vessels into Kingston harbour. The cost of these fog bells, machinery and bell tower will be about \$1,000 each.

The amount voted by Parliament for the construction of lighthouses in Ontario during last fiscal year was \$13,000, and the amount expended was \$6,140.45, leaving a balance of \$6,859.55 to be carried over to the next fiscal year for unfinished work.

The lighthouse at Goderich has been for some time past requiring protection to prevent the bank on which it is built from falling away, and the sum of \$4,000 was voted for this purpose. A plan of a pier or breakwater to prevent the lake from washing away the bank was adopted, and tenders invited for the work, but none of them were within the amount voted for the purpose, and consequently no contract has yet been made for the work.

An ice breaker to the pier and lighthouse at Point Claire, at the entrance of the Ottawa River, was constructed last winter, and was finished in time to prevent the ice from injuring the light when the river opened in the spring. The cost of the breakwater was \$2,027.

An ice breaker was also built to protect the lighthouse and pier at Lancaster Bar on the St. Lawrence River, a short distance below Cornwall, as the lighthouse there was considered to be in a dangerous position on account of the large quantities of floating ice coming down the river in the spring of the year. The total cost of it was \$2,292.20.

The new lighthouse and pier at Port Maitland which was built to replace the old one that was blown down, was finished during last fiscal year, and the total cost of it was \$5,194.50. It is a very superior piece of work, and in order to complete this station, a small dwelling for the keeper is now being constructed.

The oil and other supplies for the lights in this division for the year ending 30th June, 1873, were delivered by the propeller *Mary Ward*, at the contract price of \$1,600, during the months of July and August, 1872.

A lightship is maintained at Colchester Reef, Lake Erie, a short distance from the Canadian shore, by the Messrs. Hackett, of Amherstburg, who have for some years past, mainly depended on private subscriptions for the support of this light, which has been found to be very useful to the trade of the upper lakes. This Department has assisted these persons to maintain the light by a subsidy of \$500 per annum.

When the new lighthouse at Middle Island (the light of which is red) was completed last summer, it was found to be necessary to change the light on Pelee Island, which is near Middle Island, from a fixed red to a fixed white light; and also the light at Point Pelee Spit from a fixed white light to a revolving white light. These important changes to the navigation of Lake Erie were carried out on the 21st September, 1872, and I understand the improvements alluded to have been much appreciated by the shipping interests.

A new metallic life boat was stationed at Salmon Point on the 20th November, 1871, and one at Kincardine, Lake Huron, in July, 1872, for the purpose of being used in saving life on these lakes. The cost of these two boats was \$581.

The dwelling house at Burnt Island, River St. Lawrence, was unfortunately destroyed by fire on the 27th April, 1871, and a new house was built for that station at a cost of \$885.

Mr. Arsene Glode, keeper of the Point Claire Lightship No. 1, died on the 23rd April last, and Mr. Benjamin Glode was appointed in his place, at a salary of \$300 per annum.

Mr. John Egan, keeper of Lonely Island light, Georgian Bay, resigned his situation on the 29th July last, and Mr. Henry Solomon was placed in temporary charge.

Mr. John Dunlop, lighthouse keeper at Nine Mile Point, Simcoe Island, aged 71 years, was placed on the superannuated list with a pension of \$133.11, and Mr. Albert Dunlop was appointed in his place on the 28th of February last.

Mr. George Roddick, keeper of Gull Island light, Lake Ontario, aged 68 years, was placed on the superannuated list with a pension of \$204.24, and Mr. Robert Roddick was appointed in his place on the 23rd March last, with a salary of \$500 per annum.

Mr. Jonathan Woodall, keeper of the lighthouse at Port Dalhousie, aged 80, was placed on the superannuated list with a pension of \$252, and Mr. William Woodall was appointed keeper in his place on the 23rd March last, with a salary of \$300 per annum.

Mr. John Burgess, keeper of Mohawk Island Lighthouse, Lake Erie, was placed on the Retired List on the 2nd November last, with a pension of \$195.75, and his son has been placed in temporary charge of the light.

Mr. David McBeath, keeper of the light at the Isle of Coves, Lake Huron, died on the 5th March, 1872, and Mr. William McBeath was appointed in his place, at a salary of \$735, out of which he must provide for his own assistant.

Mr. James Eccles, keeper of the lighthouse at Pigeon Island, Lake Ontario, resigned his situation on the 5th March, 1872, and Mr. J. W. Davis was appointed in his place, with a salary of \$300 per annum.

Mr. E. B. Prieur was appointed, on the 29th April last, keeper of the new light at Coteau Landing, River St. Lawrence, with a salary and allowance of \$140 per annum.

Mr. Olivier Veaudry was appointed keeper of No. 3 Lightship, Lake St. Louis, with a salary of \$300, in place of Mr. B. Picard, who was drowned last year.

Mr. Joseph Geegan was appointed on the 3rd June last keeper of the new beacon light at McTavish Point, Ottawa River, with a salary of \$100, and Mr. R. Campbell acts as keeper of the light at L'Original, Ottawa River, with a similar salary.

The number of lighthouses in operation in this division at the close of navigation in 1872 was 83, and the number of light keepers and assistants employed was 70.

The number of buoys maintained by the Dominion Government in the same division was 45 and two triangles.

The total amount expended during the fiscal year ended 30th June last, for the maintenance of lights and buoys in this division was \$57,609.16, and the amount voted by Parliament for this service was \$55,561. There was also an amount from last fiscal year's appropriation of \$2,069 carried into the expenditure, which with the amount voted would leave an unexpended balance of \$20.84 to revert to the treasury.

TRINITY HOUSE, MONTREAL.

All the lights and buoys between Montreal and Portneuf, about thirty miles above Quebec, are managed by the Trinity House, Montreal, under the supervision of this Department. They have also the management of the new lights now building on the Richelieu River, and the buoys on the rivers running into the St. Lawrence between Lachine and Portneuf. In their district they had at the close of navigation 48' lights, including three lightships. The number of lighthouse keepers in this division, including the keepers of the three floating lights, at the close of navigation was 34, in addition to which there were three assistants in the lightships. Some of the keepers manage two lights when they are close together.

A new lighthouse was erected during the last fiscal year on Isle de Grace, the cost of which, including \$30 for the land, was \$1,016.20.

Two new lights have also been recently erected at Lotbiniere, the cost of which will appear in the financial returns of the Department for the current fiscal year.

The paid staff of the Trinity House, Montreal, consists of a Master, who receives \$625 per annum; a Registrar and Treasurer, at a salary of \$1,600; the Superintendent of pilots, \$1,200; a Clerk and a Bailiff. The cost of salaries to the staff during last fiscal year was \$4,150; contingencies of the office, including salary of the Harbour Master, Sorel, \$1,057.15; salaries of lighthouse keepers, \$3,717.09; maintenance and repairs of steamer *Richelieu*, and of lights and lightship \$12,426.56.

The total expenditure of the Trinity House, Montreal, during last fiscal year, including the erection of the new light at Isle de Grace, was \$22,369, and the amount voted by Parliament for these services was \$22,369.

The salaries paid to lightkeepers and other persons under the Trinity House, Montreal, are all very moderate, and the business of that corporation has been conducted economically and efficiently.

The expenditure for buoys in this district was heavier last spring than in former years, as many were lost in the ice, the river having unexpectedly frozen up sooner than usual, and before the buoys could be removed at the close of navigation in 1871. It was found when the river opened last spring that nearly all the buoys were gone, and they had to be replaced with new ones. The number of buoys under the charge of the Trinity House, Montreal, at the close of navigation of 1872 was 130.

The pilotage of the River St. Lawrence between Montreal and Quebec is under the management of this corporation, and complaints between captains and pilots are heard and adjusted by them. The number of licensed pilots for this part of the river, at the close of navigation, was 36.

In my last annual report I alluded to the necessity of placing some new lights and buoys of an inexpensive character on the Richelieu River, between St. John's and the American lines, for the purpose of accommodating the growing traffic on that river, and the sum of \$5,000 having been voted by Parliament for that purpose, the necessary steps have been taken to have them built in the spring, which will much facilitate the business of next summer. The expenditure for these lights will appear in the financial statements of the Department for the current fiscal year.

The steamer *Richelieu*, which is maintained by the Trinity House, Montreal, for the lighthouse and buoy service of this portion of the river, has now become old and much worn, and is now undergoing a thorough repair, which will render her serviceable for many years to come if she meets with no accident. Many of the iron plates on her bottom were nearly worn through, but the defective portions are now being replaced with new plating, which will render her much stronger than she has been for many years past. A reference to the financial statement of this Department will show that she is maintained at a very small expense.

Great difficulty has hitherto been experienced in the river between Montreal and Quebec by sea going vessels trading to Montreal, meeting small craft in the river without the necessary lights required by law; and the Trinity House has recently been taking the necessary measures to compel all such vessels to be provided with the legal number and description of lights, so that collisions and other accidents on the river may be avoided. Many of the persons in charge of these river craft neglect to provide themselves with the legal number and description of lights through ignorance of the law on the subject, and the Trinity House has recently detailed one of its officers to visit such vessels and warn those in charge, of the penalties they incur by neglecting to comply with the provisions of the law, and their action in this matter has been productive of the most beneficial results.

The Government has been strongly urged by the mercantile interests of Montreal to amalgamate the duties of the Trinity House with those of the Harbour Commissioners of that place, as their duties are in some respects very similar, and it would tend to simplify the business very much to the mercantile community; and it is my intention to recommend in accordance with the generally expressed wishes alluded to, that the Trinity House be abolished, and the duties in connection with the pilotage of the river between Montreal and Quebec be transferred to the Harbour Commissioners, as also the main-

tenance of the buoys within the Port of Montreal. As the Harbour Commissioners are about to undertake the deepening and improving the channel between Montreal and Quebec, the administration of the pilotage and buoy service can very advantageously be undertaken by that body. The administration of the lights between Montreal and Quebec will be conducted by the Department in the same manner as it is done in all the other districts of the Dominion.

TRINITY HOUSE, QUEBEC.

The duties of this corporation have been very much reduced since my Department assumed the direct management and control of the lighthouses and lightships in this district, formerly under the management of the Trinity House. Their duties are now principally confined to all matters relating to pilotage of the Lower St. Lawrence, Harbour Master's duties, and some other minor matters relating to shipping. Their staff consists of a Master, with a salary of \$1,000 per annum; Harbour Master, \$1,600; Secretary-Treasurer, \$1,600; Assistant and Clerk, \$1,200; Superintendent of Pilots, \$1,200; and a messenger. The total amount paid for salaries of this corporation, including the salaries of Harbour Masters at Gaspé and Amherst, during last fiscal year, was \$6,880.43, and the amount of contingencies during the same period was \$1,044.57, making a total expenditure of \$7,925 on account of the Trinity House, Quebec. The amount voted by Parliament for this service was \$7,525.

The number of pilots on the active list under the supervision of the Trinity House, Quebec, on the 30th June last, was 229; while on the 30th June, in the preceding year, the number was 238. Of the 229 pilots on the active list, four were employed as lighthouse and lightship keepers; four were in charge of steamers; three temporarily suspended, and eight on the sick list. On the 31st December, 1872, the number on the active list was 219, including 16 not performing active duty as pilots. During the fiscal year ended 30th June last, and during the calendar year ended 31st December, 1872, there were no pilot apprentices admitted as branch pilots for and below the harbour of Quebec. The number of pilots who were retired, struck off the active list, or died during the last calendar year was fourteen, exclusive of six temporarily suspended; three on sick list; four in charge of steamers and Government schooners, and three in charge of lighthouses and lightships.

The annual statement required by law to be laid before Parliament relative to the Decayed Pilot Fund for the year ended 31st December, 1872, will be found in Appendix No. 3 to this report. At that date the state of the fund was as follows:—

Money lent and invested.....	\$57,089 54
Interest due.....	282 32
Cash in Treasurer's hands.....	3,498 31
	60,870 17
Deduct arrears of pensions due.....	457 97
Balance to the credit of the fund.....	\$60,412 20

The number of the infirm or decayed pilots on the list at the present time is 45. The pensions allowed to them range from \$40 to \$120 each, but the bulk of them receive \$96 each. The amount paid for pensions during last year was \$4,264.

Twelve pilots were temporarily relieved out of the funds last year to the extent of \$636.

There are 92 widows of pilots on the list receiving from \$40 to \$80 each, amounting in the aggregate to \$6,204.

There are 39 children of pilots receiving pensions ranging from \$12 to \$48 each, amounting to the sum of \$894 for last year.

The amount actually paid out for pensions during last year was \$11,362, and the expenses connected with the management of the fund amounted to \$505.62, including the sum of \$440 charged by the treasurer as an allowance for a clerk. The total receipts of the fund during last year amounted to \$15,402.34, including poundage received from pilots \$7930.35; fines \$100; interest on investments, \$5,053.30, and balance in the Treasurer's hands from last year, \$2,318.69. The balance in the Treasurer's hands on the 31st December, 1872, carried over to next year, was \$3,498.31.

On the 5th March, 1872, Mr. J. D. Armstrong, who had filled the office of Harbour Master at Quebec since the year 1853, was placed on the superannuation list, with a pension of \$260.48 per annum. Mr. Armstrong was 76 years of age when he was superannuated, and I have much pleasure in stating that he has always been known as a highly respectable and efficient public officer, and during the period he was under the supervision of this Department, he has always discharged his duties to its entire satisfaction. On his retirement, Mr. Francois Gourdeau, the Superintendent of Pilots, was appointed Harbour Master, at a salary of \$1,600, and Mr. John Smith, formerly junior Superintendent of Pilots, but latterly acting as Inspector of Lights at Quebec, was appointed Superintendent of Pilots, at a salary of \$1,200 per annum. Both these gentlemen are members of the Trinity House, Quebec.

The pilots for and below the harbour of Quebec are, as a general rule, a superior class of men, and the pilotage ground is probably one of the longest and most difficult in the world, but the remuneration which they receive for their services does not amount to more than \$536 for the season's work, on an average of the last five years. The dividend paid to each pilot in 1868 was \$418; in 1869, \$455; in 1870, \$552; in 1871, \$552; in 1872 \$673. But there is an impression among many persons connected with the trade of the river that the number might safely be reduced, owing to the increased facilities now afforded as compared with former years when the number had necessarily to be large. Now that there is a railway to convey the pilots from Quebec to the neighborhood of Bic—the commencement of the pilotage ground—in a few hours, and telegraphic communication to enable those in charge of the pilot schooners to communicate with the Directors of the Corporation at Quebec, a much smaller number of pilots could overtake the work than the number originally required, and it is probable that the number could now safely be reduced to about 150 or 175 without injury to the trade, and at the same time enable the corporation to make a larger dividend to the pilots.

The Board of Trade of Quebec, and others interested in the trade of the river, are urgently pressing to have the pilotage laws relaxed to a certain extent, so as to allow vessels up to the size of 250 or 300 tons, and coasting steamers, to come up the river without being compelled to take pilots. While a measure of this description would be highly acceptable to the mercantile interests of the country, and would tend to encourage our intercolonial trade and reduce the charges on coasters engaged in carrying coal and other cargoes between Quebec and Montreal and the lower maritime ports, I am of opinion that it would not very materially reduce the earnings of the pilots, as it is not probable that many vessels over 150 or 200 tons would venture up the intricate and difficult navigation of the St. Lawrence unless they had some one on board well acquainted with the ground. It is more than probable that such a measure would also be very beneficial to the pilots themselves, as the owners of coasting vessels and steamers running regularly between the St. Lawrence and the lower maritime provinces would gladly avail themselves of the services of the Quebec pilots as captains and mates, if they found they could avoid paying the regular pilotage every trip. With seagoing experience, the Quebec pilots would make a superior class of men for masters and mates in the foreign trade, and those of them who went into this business would thus be enabled to earn wages throughout the whole year, instead of merely earning remuneration during the season of seven months. Since the new law requiring vessels engaged in certain foreign trades to have certificated masters and mates, the demand for that class of persons has been very great, and wages have advanced accordingly.

In any fresh legislation that may be deemed necessary with reference to the pilotage of the St. Lawrence, care should be taken to pay due regard to existing interests, as the annual amount of income which the pilots now obtain from their business is quite small enough to maintain themselves and families respectably. If vessels of a larger class than at present are allowed to trade in the St. Lawrence without being subjected to compulsory pilotage, the number of pilots must be gradually reduced, so as to prevent their earnings from being diminished, while at the same time by giving them facilities for acquiring the knowledge to obtain certificates as masters and mates of seagoing ships, an extensive field of usefulness and profitable employment would be opened up. In making any rearrangement of this question there are three interests to be consulted—the first is that of the Government as the conservators of the general public, to see that life and property is properly protected while in the waters of the Dominion, and that the reputation of the great maritime highway of the country is not allowed to suffer; the second is that of the mercantile community, who naturally wish the burdens on trade and commerce to be as light as possible; and the third is that of the pilots, who are naturally afraid of any change in case it might possibly reduce their remuneration, which at present is rather too small than otherwise. The mercantile interests complain, with reason, that the pilot restrictions which at present exist cramp and embarrass trade without benefitting the pilots. If any measure can be devised which will be acceptable to the various interests concerned, it will be very desirable that it should be adopted as soon as possible, as much dissatisfaction now exists with the present pilotage

system of the St. Lawrence on the part of those who are interested in, and represent the growing trade and commerce carried on at, the seaports of that great river.

I think it might be desirable in order to meet the urgent demands of the mercantile interests of Quebec, with reference to pilotage, to introduce into the Trinity House as the pilotage authority of the district, an elective element from the Board of Trade, as also a representative from the Corporation of Pilots, and give the Trinity House thus reconstructed and reinvigorated by these new elements, more extended powers as to the management of pilotage matters, including tariffs, by-laws and regulations on the subject. By adopting some plan of this kind, many of the grievances and complaints now made by the mercantile interests against the present system of pilotage might probably disappear, while the interests of the pilots would be represented at the Trinity House Board when any alteration of the tariff rates or by-laws were under discussion. *

LIGHTHOUSE AND COAST SERVICE BELOW QUEBEC.

This division includes three minor lights and some buoys between Port Neuf and Quebec, all the lights, lightships, steam fog whistles and buoys in the River and Gulf of St. Lawrence, Straits of Belleisle, and Coast of Labrador, and three lights on the north west coast of Newfoundland which are maintained by the Government of Canada. The business of this division is managed by an agent, Mr. Gregory, under the immediate direction of the Department. In addition to these duties, he attends to all the other business of the Department at Quebec, including Dominion steamers, river police, marine police, distressed seamen, &c.

In this division there were at the close of navigation 35 lighthouses, 5 lightships—two of them iron, with steam fog whistles on board—and 52 buoys and 53 beacons. The number of keepers employed for these lighthouses was 33, besides five captains for the lightships, and about 32 persons as officers and crews for them, two engineers for the fog whistles on board the lightships, and 18 assistants and gunners for the signal guns. There is also a steam fog whistle at the South Point, Anticosti, with an engineer to attend to it. The total number of persons employed in attending to the lights, lightships and steam fog whistles in this division was 92.

The expenditure on account of construction of the Red Island Lightship and fog whistle during the last fiscal year was \$2,537.73, and during the previous fiscal year \$33,324.55, making the total expenditure on account of this lightship and steam fog whistle, \$35,862.28. There is only one lantern on this vessel, but it is probable a second one will have to be added to distinguish it from other vessels lying at anchor.

The balance of outlay for the construction of South Point, Anticosti, Lighthouse, paid during last fiscal year was \$429, and the amount previously paid was \$7,063.50, making the total cost of construction of this lighthouse and buildings in connection therewith up to the 30th June last, \$7,492.50. The fog whistle and engine house at this station have cost altogether the sum of \$7,242.22 up to the 30th June last.

During last fiscal year the sum of \$3,065.29 was paid on account of the new light house recently erected at Magdalen River, County Gaspé, which with the amount paid

during the previous fiscal year, viz : \$3,104.88, makes the total cost of construction of this light \$6,170.17.

The balance of contract and other payments made on account of the new lighthouse at Cape Chatte, County of Gaspé, during last fiscal year was \$1,778.56. The amount paid during the previous fiscal year was \$2,116.93, making the total cost of construction up to the 30th of June last \$3,895.49.

The amount paid during last fiscal year on account of the construction of Bird Rock Lighthouse was \$1,656.68, and the amount previously expended on account of it was \$7,918.40, making the total cost of it up to the 30th June last \$9,575.08. As this lighthouse is built on such a very exposed place, it was deemed advisable by the Department to put some additional stays or guys on the tower, and thereby make it more securely fastened to the rock, and the expenditure on this account, which is properly a charge for construction, will appear in the accounts of the Department for the current fiscal year. The cost of the dioptric apparatus which is used in the lantern of this lighthouse is not included in the amount mentioned as the cost of construction, as the apparatus had been in store for many years, and was not purchased for this light. As there was only an arrangement for landing at one side of the rock, vessels conveying stores and provisions there were sometimes delayed if the wind was blowing in that direction ; but another arrangement will be made for landing on the other side of the rock, which will much facilitate landing at that dangerous place.

The amount paid during last fiscal year on account of construction of the lighthouse at Cape Ray, Newfoundland, was \$443.94, and the amount previously paid was \$10,903.82, making a total of \$11,347.76 for the construction of this light.

Some payments were made during last fiscal year on account of Amherst Island Lighthouse, Magdalen Islands, amounting to \$127.06. The amount previously expended was \$6,700.93, making a total of \$6,828.01 on account of the construction of this light up to 30th June last.

Some complaints reached this Department that the red light exhibited on the light vessel at Sandy Beach Spit, in Gaspé Harbour, was not seen far enough off to warn vessels of their position in coming up the harbour, and arrangements were made last fall to show two lights, one red and one white, on this light vessel. The change has been found to be very advantageous. Up to the 30th June last, the expenditure for lantern, bell, &c., for this vessel was \$125.84. The vessel is hired at \$278 for the season, including the crew.

At the light at Monte du Lac, which is built on the brow of a steep, rocky hill, almost unapproachable from the shore, it was found necessary to build a stairway from the shore up to the lighthouse, as also a small store house, the whole cost of which was \$221.17. The amount previously expended was \$1,447.20, making the total cost of the establishment at that place \$1,668.37.

A very useful minor light or beacon has been erected on Lark Islet, near the entrance of the Saguenay River, for the purpose of leading vessels into that river. There are two flat-wick lamps in it, with 16-inch reflectors. A bell is also attached to it, which is used

in thick foggy weather, The light was exhibited for the first time on the 1st September last. The sum of \$426.50 was paid on account of the erection of this light up to the 30th June last, but further payments have since been made, which will appear in the accounts of the Department for the current fiscal year. No permanent keeper has yet been appointed to take charge of this light.

A very good light has been established at Carleton Point, Bay Chaleur, which was exhibited for the first time on the 1st June last. It is a fixed red light on the catoptric principle, with three mammoth flat-wick lamps, and 18-inch reflectors, and is seen a distance of about twelve miles. The amount expended on it up to the 30th June last was \$1,170.64. Mr. E. Landry was appointed keeper, at a salary of \$200 per annum.

The new lighthouse at Point Rich, on the northern coast of Newfoundland, has now been completed, and shows a brilliant white flash light. The balance of contract and other sums paid on account of the construction of this light for the last fiscal year was \$1,027.98, and the amount previously paid on account of it was \$9,129.52, making the total cost of it up to the end of last fiscal year \$10,157.50.

The new lighthouse on Egg Island was recently completed, subsequent to the close of the last fiscal year. The total cost of it will not, therefore, appear until the accounts are made up for the current fiscal year. Up to the 30th June last, the amount paid on account of its construction, and revolving and lighting apparatus was \$3,830.21.

A new light ship was established on the 1st November, 1871, in the Upper Traverse. This vessel was the schooner *New England*, and was purchased for the sum of \$3,200, and afterwards fitted up as a light vessel at an expense of \$2,459.04, making her total cost \$5,659.04. The light shown is a small white dioptric light suspended between the two masts. Mr. A. M. Dechene was appointed keeper, with an allowance of \$1,400 per annum.

The new light at Cape Norman, on the north coast of Newfoundland, near the entrance of the Straits of Belleisle, is now finished, and during the last fiscal year the amount expended on account of its construction was \$4,635.74. The amount expended during the previous fiscal year was \$5,506.22, making altogether the sum of \$10,141.96 for tower buildings, lantern, and revolving and lighting apparatus.

A new lightship was recently placed on the Manicouagan Shoals, near the entrance of the River St. Lawrence on the North shore of the river. It shows two small white dioptric lights, one suspended on each mast. It has also a steam fog whistle on board which sounds during thick weather or snow storms as follows:—A blast of eight seconds' duration, then an interval of eight seconds, then a blast of eight seconds, after which an interval or cessation of two minutes and twenty seconds. This vessel was built in England, and sailed out under canvas, while the Red Island lightship was manufactured in England and put together at Quebec. The Manicouagan lightship has been under the charge of Captain Connell, one of the ablest pilots on the River St. Lawrence, and an experienced captain of steamers running in the Gulf. The amount expended on the construction of this vessel up to the 30th June last was \$26,546.97, but this did not include the cost of the steam fog whistle, and other expenses in connection therewith,

which will appear in the returns of the present fiscal year. The light was first exhibited on the 19th of August last.

The steam fog whistles on board the Red Island lightship, and the Manicouagan lightship, are both of the most powerful description, and in some states of the atmosphere have been heard a long distance off, but nothing definite can be stated as to the distance at which they can be heard. I have been informed by the Honourable Senator Price, of Quebec and Chicoutimi, who is thoroughly acquainted with all matters relating to the navigation of the river in the neighbourhood of the Saguenay, that he has heard the Red Island fog whistle while sailing in his yacht, a distance of upwards of thirty miles, but as a general rule I am of opinion that steam fog whistles cannot be much depended on to warn vessels of their position beyond five or six miles distant. My Deputy, who accompanied Sir Frederick Arrow, Deputy Master of the Trinity House, London, and Captain Webb, one of the Elder Brethren, to the Manicouagan and Red Island lightships for the purpose of inspecting them and testing their power, reports to me that while they were steaming to windward away from the Manicouagan lightship, with the wind southerly at force 3 to 4, weather clear, the sound was heard well at six miles; at seven, eight, nine, ten and eleven miles the sound was heard, but gradually decreasing in strength, and at twelve miles it was just audible. I believe, therefore, that it is a difficult matter to determine how far the sound of the steam fog whistles can be heard, as it appears to be regulated altogether by the state of the atmosphere.

The total amount expended for the construction of new lights, lightships and steam fog whistles below Quebec during last fiscal year was \$57,780.77, and the amount voted for this service was \$46,150. There was also a sum of \$17,000 brought over from the previous year, which made a total of \$63,150 available for this service.

A new lighthouse will be erected during the ensuing spring at Matane, between Father Point and Cape Chatte, on the south shore of the River St. Lawrence. Another new light is also under contract to be erected in the early part of next summer at Port Neuf, on the north shore of the River St. Lawrence, about 35 miles below the Saguenay River. A new lighthouse and steam fog whistle is also under contract to be built at Gaspé Point, in the Gulf of St. Lawrence, which will probably be finished during next summer. New lighthouses are also under contract to be built next spring at Cape Despair, at the entrance of Bay Chaleur, and at Point Macquereau, in the Bay Chaleur. A new lighthouse will also be erected at Cape Nord, Magdalen Islands, and a steam fog whistle will also be erected on one of the islands of that group.

The new lighthouse at Seven Islands was unfortunately burnt down on the 13th August last, and has not since been rebuilt. The keeper appears to be of opinion that the fire originated in the lantern, caused by an explosion of one of the lamps.

The provision dépôt formerly maintained at Shallop Creek, on the Island of Anticosti, for the benefit of shipwrecked mariners, has been removed to South Point, where a new lighthouse and steam fog whistle have been established. Mr. B. Bradley, the keeper of the provision dépôt, whose services were no longer necessary, has been placed on the superannuated list, with an allowance of \$99.35 per annum.

Mr. Paul Pouliot, the keeper of the light at Point des Monts, became incapacitated by mental infirmity during last summer for the discharge of his duty, and was removed from the station, and placed on the superannuated list with an allowance of \$138.24. Mr. Ferdinand Faffard was appointed in his place, with a salary of \$700 per annum.

The total amount expended for the maintenance of the lights, lightships, steam fog whistles, signal guns, buoys and beacons in this district was \$41,936, and the amount voted by Parliament for this purpose was \$41,936.

LIGHTHOUSE AND COAST SERVICE, NEW BRUNSWICK.

In this division the business is managed by an agent of the Department, Mr. J. H. Harding, under the directions of the head office at Ottawa. There is also an Inspector, who visits the lighthouses and sees that they are kept in proper order. In New Brunswick there are now 47 lighthouses, of which 24 are sea lights, and 23 minor or beacon lights. There are also two steam fog whistles in operation in this division, both situated in the Bay of Fundy, one at Partridge Island and one at Lepreaux. A new steam fog whistle is also under contract to be erected at Machias Seal Island—a dangerous place near the entrance to the Bay of Fundy—and another one on Miscou Island, near the entrance to the Bay Chaleur. The number of buoys and beacons maintained by this Department in New Brunswick was 169, and the cost of maintaining them was \$2,864.28. The number of light keepers, engineers and assistants employed in New Brunswick to keep the lights and steam fog whistles is 40.

The total cost of maintaining the lights, steam fog whistles, buoys and beacons in New Brunswick for the year ended 30th June last, was \$23,369.12, and the amount voted by Parliament for this service was \$26,807, leaving an unexpended balance of \$3,437.88.

The new white revolving light recently erected on the Southern Wolves, in the Bay of Fundy, has been found to be most valuable to the navigation of the Bay, and has been much appreciated. The total cost of its construction, including machinery and lighting apparatus, up to the 30th June last, was \$4,898.59.

The fixed red light recently erected on Bliss Island has also proved most serviceable to vessels making a harbour in that locality. The total cost of its construction, including lighting apparatus, was \$1,378.86.

A fine revolving white light, large size with two faces, was recently established at Cassie's Point to guide vessels into Shediac Harbour. It was lit for the first time on the 30th August last, and contains four mammoth flat-wick lamps on each face, with eighteen inch reflectors. The light revolves every three minutes, shewing every minute and a half. The amount paid on account of its construction up to the 30th June last was \$800. Mr. Charles Le Blanc was appointed keeper, with a salary of \$240 per annum.

A new minor light was recently established on L'Islet, in Shippegan Harbour or Gully, Gloucester County, which has been found to be of great service to the fishermen and others frequenting that coast. It is a fixed white light with four mammoth flat-wick lamps and sixteen inch reflectors. The cost of its construction will appear in the financial statements.

of the current fiscal year. It was lit for the first time on the 21st October, 1872, and Mr. F. H. Dumaresq was appointed keeper, on the 14th October, 1872, at a salary of \$240 per annum.

Another minor light was recently established at the north side of Tracadie Gully, in Gloucester County, for the purpose of a coast light, and to guide boats going into harbour. It is a fixed white light, with four mammoth flat-wick lamps and sixteen inch reflectors. It was lit for the first time on the 21st October, 1872, and Mr. William Archer was appointed keeper, at a salary of \$240 per annum. The cost of its construction will appear in the financial statements of the current fiscal year.

Two minor lights will shortly be erected at the entrance to Neguac Gully and Tabusintac Gully, and will probably be lit on the opening of navigation.

A new lighthouse is now under contract to be erected at Cape Spencer, in the Bay of Fundy, near the entrance of St. John harbour. It has been much required for some years past, and will add to the safety of the navigation in the Bay of Fundy. It will be a powerful white revolving light, so as to be easily distinguished from the fixed white lights on Partridge Island and the beacon.

Two minor lights will also be established in the Grand Lake, which will assist the growing trade in that section of the Province.

Two beacon lights were recently erected on Fox Island, at the entrance to the Miramichi River. The amount paid on account of their construction up to the 30th June last was \$530.14. They were lit for the first time on the 19th May last, and Mr. Robert Rainsborough was appointed keeper on the 12th October last, at a salary of \$200 per annum. There is a mammoth flat-wick lamp, with eighteen inch reflector in each beacon.

On the 1st November, 1871, Mr. F. J. Harding was appointed clerk to the agent at St. John.

On the 28th November, 1871, Mr. William Gallant was appointed keeper of the steam fog whistle at Point Lepreaux, in the room of Mr. J. H. Crosby, resigned, at a salary of \$400' per annum.

The supplies in New Brunswick have hitherto been delivered by chartered schooners, or by such other opportunities as offered, but it is desirable in future to have them delivered in Government vessels, if suitable arrangements can be made to accomplish that purpose.

NOVA SCOTIA LIGHTS.

The business of this Department in Nova Scotia is managed by an agent at Halifax, Mr. H. W. Johnston, under the direction of the Department at Ottawa. He is assisted by an Inspector of Lights, Captain Kendrick, who visits the light stations and attends to the delivery of the supplies; and also a clerk to assist in doing the office work. Mr. Burpee was formerly clerk at this agency, but he has recently resigned his situation, and Mr. Henry Dolby was appointed in his place. The Department also frequently avails itself

of the extensive nautical experience and knowledge of the coasts in that part of the Dominion possessed by Captain Scott, R. N., the chairman of the Board of Examiners of Masters and Mates, and commander of the steamer *Lady Head*, in determining questions which are constantly arising in connection with lighthouses, buoys, beacons, and the general service of the Department, as he was for many years an Admiralty surveyor on the coasts of Nova Scotia and New Brunswick.

The lights in Nova Scotia at the time of Confederation were nearly all of a very inferior description, the lamps being altogether too small for the purpose. Since that period, however, a great improvement has been made in that respect, and many of the small flat-wick burners in use at that time have been replaced by powerful round wick burners which give a light equal to 27 candles. The oil is now procured so cheaply by the Department that the increased quantity consumed is a matter of very little importance compared with the great benefits conferred on the shipping by the superior quality of the light now produced.

The oil and supplies for the Nova Scotia lights were delivered last season by the Superintendent in a schooner chartered for the purpose, but it is desirable that the principal portion of this service should be performed in future by Government vessels. The number of steam fog whistles which now require to be served with coal will probably involve the expense of purchasing a large schooner for the purpose, as chartering is attended with too much uncertainty.

In this division there were at the close of navigation 76 lights, with a light keeper for each. There are 109 buoys and beacons maintained in the general interests of the Dominion on the coasts of Nova Scotia, besides those maintained by the local authorities in harbours for local purposes. The total cost of maintaining the buoys and beacons of Nova Scotia during last fiscal year was \$3,040.51. At the present time there are five steam fog whistles in operation, viz., at Cranberry Island, St. Paul's, Seal Island, Yarmouth and Digby. New steam fog whistles are being erected at Brier Island, and at the east and west ends of Sable Island. A new iron lightship, with a steam fog whistle on board, has been ordered for the entrance of Halifax Harbour.

The total cost of maintaining the lighthouses, buoys and beacons, and steam fog whistles and works in connection with them, including the humane establishments at St. Paul's and Scatterie, during the last fiscal year, was \$61,255.19.

The total cost of maintaining the humane establishment at Sable Island during last fiscal year was \$6,607.15. Of this amount the British Government contribute £400 stg., per annum. The cost of maintaining the humane establishments at St. Paul's and Scatterie are included in the amount stated for maintenance of lights and steam fog whistles, as the staff at each of these places perform the duties of lighthouse keepers and humane officers.

The total expenditure in Nova Scotia for the last fiscal year for the maintenance of the lighthouse and coast service, including humane establishments, was \$67,862.34, and the amount voted by Parliament for this service was \$68,899. The amount contributed last fiscal year by the Government of Prince Edward Island as its share of maintaining the

lighthouses and humane establishment on St. Paul's Island, under the award of the arbitrators who met in 1836 for the purpose, was \$136.79.

The expenditure up to the 30th June last of the steam fog whistle which has been recently erected at the east end of Sable Island was \$3,019, but the total cost of it will not appear until the accounts of the current year are made up. It was first put in operation on the 5th of November, 1872, public notice of which will shortly be given. Mr. James Norman has been appointed engineer, with a salary of \$600 per annum.

The amount expended for the construction of the steam fog whistle and building at Cranberry Island, up to the 30th June last, was \$10,480.80, but there will be a further expenditure for this fog alarm during the current fiscal year, which will appear in next year's report.

At Seal Island it was found to be necessary to construct a water reservoir or tank to contain water with which to supply the engine, and the cost of it was \$1,603.48, making the total cost of this fog alarm up to the 30th June last \$6,156.16.

A very powerful new steam fog whistle was recently erected on Point Prim, in the neighbourhood of the lighthouse at the entrance of Digby Gut, which has proved of great service to steamers and other vessels which frequently run to that locality. It was first put in operation on the 29th December, 1871, and gives a blast of eight seconds in each minute, leaving an interval of fifty two seconds. Mr. Robert A. Dakin was appointed keeper of the light and steam fog whistle at \$800 per annum, but he has since resigned, and the establishment is now under the charge of a temporary keeper until a permanent appointment is made. The total cost of the construction of this fog alarm up to the 30th June last was \$4,738.28.

A new steam fog whistle has recently been erected on the south west side of Atlantic Cove, on the south side of St. Paul's Island, and was first put in operation on the 7th October last. It gives a blast of five seconds in every minute. Mr. Charles Stewart was appointed engineer of this alarm, at a salary of \$600, and the expenditure on account of its construction up to the 30th June last was \$4,738.28. Some additional expenditure, however, will appear in the returns of the current fiscal year, and as it is situated some distance from the beach at the humane establishment, a road will require to be made to it, so as the coal can be hauled up from the landing. The fog bell and gun hitherto in use at this dangerous island will now be discontinued.

A new steam fog whistle is now being erected at Briar Island, at the entrance of the Bay of Fundy, and will shortly be put in operation. The expenditure on account of construction of this fog alarm up to the 30th June last was \$2,193.90, but there will still be considerable additional expenditure to finish it, which will appear in the returns of the current fiscal year.

The amount expended on account of construction of the new lighthouses on Sable Island up to the 30th June last was \$991.75, but a large portion of the cost of construction of these lighthouses, which are not yet finished, will appear in the accounts of the Department for the current fiscal year.

The lighthouse at the east end is nearly completed, and will show a French white dioptric light of the second order, and a large four-wick concentric lamp has been sent there for the purpose of lighting it. The lighthouse is 86 feet in height, painted white and brown. It is built on high ground, and will form an excellent day beacon for ships at a distance, while the light at night will probably be seen at a distance of twenty or twenty-five miles. The tower will also form an excellent look-out for the men on watch for vessels in difficulty. Public notice will soon be given of the exhibition of this light.

The lighthouse on the west end is not yet completed, although the materials for building it are all on the island. It will be built on low ground, and its height will be ninety feet. The light will be a strong bright white revolving catoptric light, with three faces following close after each other, and then a total cessation of light. There will be fourteen large circular burner lamps in the three faces, with a twenty-four inch deep reflector to each lamp. It is probable it will be one of the finest catoptric lights in the world, and will probably be seen distinctly at a distance of upwards of twenty miles. It is probable the men on the look-out at each of these lighthouses will see from the top of the towers, with the assistance of their marine glasses, objects distinctly at a distance of ten or twelve miles, and thus between the two stations command a view of the whole Island. There will, therefore, not be the same necessity for keeping up the frequent patrols on the lookout for wrecks on the shores of the island which formerly existed.

A new lighthouse was recently erected on the west end of the south bar at Sydney Harbour, Cape Breton. It is a square tower painted white, and shows a fixed red light on the catoptric principle. In this light there are three mammoth flat-wick lamps with 18-inch reflectors. It was exhibited for the first time on the 17th July, 1872, and Mr. George Munn was appointed keeper, at a salary of \$200 per annum. The total cost on account of its construction and outfit up to the 30th June last was \$617.98. The light should be seen at a distance of ten miles.

A superior new white revolving light, on the catoptric principle, has recently been established on the south west end of the Cheticamp Island, on the north west coast of Cape Breton. It has two circular burner lamps, with twenty-inch reflectors on each of the two faces. The tower is a square wooden building, painted white, and the light shows a flash every three-quarters of a minute, and makes a revolution every minute and a half. It was first exhibited on the 23rd July, 1872, and Mr. Edward Briard was appointed keeper, with a salary of \$350 per annum. The total cost of its construction up to the 30th June last was \$2,261.37, but it was not then finished, and the balance of its cost will appear in the accounts of the current year.

A new lighthouse was recently erected at Chebucto Head, on the west side of the entrance of Halifax Harbour, for the purpose of assisting vessels entering and leaving that port. It is a white revolving light, on the catoptric principle, shows a flash every minute, making a revolution every two minutes, and has three No. 1 circular burner lamps in each of the two faces, with twenty-inch reflectors. The amount paid on account of its construction up to the 30th of June last was \$2,025. The light was first exhibited on

the 21st August, 1872, and Mr. Edward Johnson was appointed keeper, at a salary of \$400 per annum.

A new fixed red light, on the catoptric principle, was recently erected at Arichat Harbour, Jerseyman's Island. It has two No. 1 circular burner lamps, with twenty inch reflectors, and two mammoth flat wick lamps, and sixteen inch reflectors. The tower is a square wooden building, painted white. The light was exhibited for the first time on the 10th July, 1872, and Mr. C. A. Boudrot was appointed keeper at a salary of \$250 per annum. The amount expended on account of its construction up to the 30th June last was \$1,320.55.

A new light has recently been erected on Green Island, at the entrance of Country Harbour, County of Guysborough. It will be a fixed white catoptric light, but on account of an accident to the lantern while in transit to the island, it has not yet been exhibited. It will probably be put in operation early in the spring of 1873. Mr. William Foster has been appointed keeper, with a salary of \$400 per annum. The amount expended on account of its construction up to the 30th June last was \$1,323; but it was not then finished, and some further expenditures made on account since that time will appear in the current fiscal year.

A new light has recently been erected at Canso Harbour, on the north eastern part of Cutler's or Hart's Island, Guysborough County. It is a catoptric fixed red light, with four mammoth flat-wick lamps and eighteen-inch reflectors, and it is seen at a distance of twelve miles. It was first exhibited on the 10th July, 1872, and Mr. John Langley was appointed keeper, with a salary of \$200 per annum. The amount expended on account of its construction up to the 30th June last was \$814.42. A farther expenditure on account of this light will appear in the returns for the current fiscal year.

A new lighthouse has been recently erected on Carter's Island, Ragged Island Harbour, County of Guysborough; The tower is a square wooden building, painted white, and the light is a fixed red catoptric light, and will probably be seen a distance of eleven miles. It has one circular burner lamp with twenty-inch reflector, and was first exhibited on the 10th September, 1872. Mr. James Lloyd was appointed keeper, at a salary of \$160 per annum. The total amount expended on account of the construction of this new light up to the 30th June last was \$551.80, and it is not probable there will be any further expenditure on account of it.

A very superior new light was recently established on the west side of Liscomb Island, at the east side of the entrance to Liscomb Harbour, County of Guysborough. The tower is square, painted white, and the roof red. It shows a revolving red and white light, flashing every two minutes, and can be seen at a distance of upwards of fifteen miles. There are in it three large lamps with circular burners in each of the two faces, and twenty inch reflectors. It was first exhibited on the 10th August, 1872. Mr. Seth Crooks was appointed keeper, at a salary of \$350 per annum. The expenditure on account of its construction up to 30th June last was \$2,718.27, but this is not its total cost, as some farther payments have been made on account of it, which will appear in the returns of the current fiscal year.

A minor light was recently erected on Shingle Beach, on the east side of Port l'Hebert, Queen's County. The tower is a square wooden building, painted white, and the light is a fixed red catoptric, with one No. 1 circular-burner lamp and twenty-inch reflector. It will probably be seen at a distance of ten miles. It was first exhibited on the 10th September, 1872, and Mr. Martin Lisk was appointed keeper, at a salary of \$100 per annum. The expenditure on account of its construction up to 30th June last was \$556.80.

A minor light was recently established at Hobson's Nose, Mahone Bay, County of Lunenburg. The tower is a square building, painted white, and the light is a fixed red catoptric. It has four mammoth flat-wick burner lamps with 18-inch reflectors, and will be seen at a distance of about 11 miles. It was first exhibited on the 12th September, 1872, and Mr. Abraham Zinck was appointed keeper at a salary of \$250 per annum. The expenditure on account of this light was \$327.58, and the balance of its cost will appear in the returns of the current fiscal year.

A minor revolving light was recently erected on Negro Island, at the entrance of Negro harbour, County of Shelburne. It shews red and white flashes alternately every minute, and should be seen at a distance of 12 miles. It has one circular burner lamp to each of two faces, with 20 inch reflectors to each lamp, and was first exhibited on the 6th September, 1872. Mr. James McKinnon was appointed keeper at a salary of \$100 per annum. The expenditure on account of its construction up to 30th June last, was \$843.26, and the balance of the cost of it will appear in the returns for the current fiscal year.

During the calendar year of 1872, eleven new lighthouses and one steam fog whistle, have been put in operation.

The total amount expended in Nova Scotia during the fiscal year ended 30th June last, on account of construction of new lighthouses and steam fog whistles, was \$34,718.21, while the amount voted by Parliament for that purpose was \$48,400.

The number of new lighthouses which have been established in Nova Scotia since the date of Confederation up to the 31st December, 1872, is twenty-four, besides three which have been rebuilt, and there are ten now under contract, which when completed will make the number thirty-four. Six steam fog whistles have been erected during the same period, and three are now under contract. An iron light ship is to be placed at Halifax Harbour having one of the fog whistles on board.

The total number of persons employed on the 31st December, 1872, in Nova Scotia in connection with the lights, steam fog whistles and humane establishments, are as follows :—

Light-keepers.....	76
Engineers.....	5
Persons employed at the humane establishments in addition to the light-keepers.....	20
Superintendent of Lights.....	1

The following changes have taken place among the persons employed in Nova Scotia in connection with the lighthouses and steam fog whistles, since the date of my last report :—

The keeper of Annapolis Light, at the entrance of Digby Gut—Mr. Bragg—having served upwards of 32 years in that capacity, and having attained the age of 63 years, and being in bad health, was awarded a superannuation allowance of \$264.69 on the 31st December, 1871, and Mr. R. A. Dakin was appointed keeper of both the light and fog whistle, at a salary of \$800, out of which he was required to pay the salary of an assistant, but he subsequently resigned, and no permanent appointment has since been made.

Mr. Benjamin Rynard, keeper of Cross Island light having resigned, Mr. George E. Smith was appointed in his place on the 20th June last, at the same salary, viz., \$460.

Mr. Patrick Duane, keeper of Green Island light, county of Richmond, having resigned on account of bad health, at the age of 60 years, after having served 6 years, which did not entitle him to an annual superannuation allowance, he was awarded a gratuity of \$250, and his son, William Duane, was appointed in his place on the 1st November, 1871, at the same salary, viz :—\$500 per annum.

Mr. John Cormack, Engineer at Cranberry Island Fog Whistle, resigned on the 30th September, 1872, and no permanent appointment has yet been made in his place, the duties connected with the steam engine being temporarily performed by Mr. Hanlon, the light keeper.

Mr. Thomas Eaton, the Keeper of Coffin's Island Light, County of Queen's, while crossing from the Island to the mainland, on the 7th October last, was unfortunately drowned, and Mr. William Firth, the keeper of Little Hope Island Lighthouse, was appointed in his place, at a salary of \$400 per annum. Mr. Alexander McDonald was appointed keeper of Little Hope Island, at a salary of \$500 per annum.

Mr. John Crotty, the lighthouse keeper at Black Rock, King's County, having attained the advanced age of 80 years, and being unable by reason of bodily infirmity, longer to discharge his duties, was on the 1st July last, placed on the superannuation list, with an allowance of \$136.08 per annum, and Mr. James E. Robinson, was appointed in his place, at a salary of \$350 per annum.

The engineer of the steam fog whistle at Seal Island, Mr. Samuel Reardon, resigned his situation, and Mr. William Hayden was appointed in his place at a salary of \$500 per annum.

I am happy to be able to report that only two wrecks occurred during the last fiscal year on that dangerous place [Sable Island] and that they were fortunately unattended with any loss of life. On the 1st November, 1871, the brigantine *Black Duck*, of and from Quebec, bound for Bermuda, with a cargo of lumber, went ashore on the north side of the Island, near the main station, at two o'clock a.m. All hands succeeded in reaching the beach safely, and a portion of the cargo, sails and rigging were saved, and the rigging was sold at Halifax. After the salvage and expenses on the materials saved were paid to the Government, the amount of \$154.90 was paid over to the persons who claimed as owners.

On the 20th May last, the American fishing schooner *Boys*, went ashore during a dense fog, and became a total wreck, but all hands got safely ashore. The materials which were saved have since been brought to Halifax, and sold for the benefit of all concerned.

At Saint Paul's Island, two wrecks have occurred since the date of my last report, and both before the establishment of a steam fog whistle there. One of the wrecks, I regret to state, was attended with serious loss of life—not a soul surviving to tell the melancholy tale. It appears, that on the night of the 28th November, 1871, there was a heavy snow storm raging at St. Paul's Island, and in that neighbourhood, the wind blowing a furious gale at the time from the north. After the storm had subsided, the superintendent of the Humane Establishment there, discovered among the rocks on the north side of the Island, floating timber, broken spars, and other wrecked material, as also a life buoy belonging to the barque *Emperor*, of London, leaving no doubt that the vessel alluded to, had stranded on the rocks at that place, had been dashed to pieces during the storm, and that all the crew had perished at the same time. During subsequent investigations, the superintendent discovered under water at the place where the vessel was supposed to have gone ashore, the body of a man, along with iron ship knees, chains and anchors, all proving conclusively the fate of the vessel and her crew. The barque *Emperor* left Quebec on the 18th November, 1871, bound for Bristol, with a cargo of timber or deals. Her crew consisted of Captain Barrett and fifteen men.

The other wreck alluded to, was the steamship *Adalia* of London, bound on a voyage from Plymouth to Quebec, with a valuable general cargo, and a number of passengers. She went ashore early in the morning of the 25th July last, during a fog. This was some time previous to the steam fog whistle having been erected. When the fog set in on the night in question, the superintendent commenced firing a signal gun from the Island, but the captain of the steamer states that he did not hear it until his vessel had stranded on the rocks. The passengers and crew were all safely landed on the Island, and taken care of at the Humane Establishment, and a considerable portion of the cargo was also saved, although the vessel subsequently became a complete wreck. On receipt of the intelligence by the officers of this Department, a Government steamer, and two Government schooners were immediately despatched to render assistance to the passengers and crew, and to protect the revenue and cargo saved. The passengers were taken off the Island by a steamer which was sent for them by the agent of the wrecked vessel.

During last year seven wrecks took place on Anticosti Island, the *Royal Charter*, at Fox Bay; the *Agda*, three miles below Pavilion River; the *Tadmar* and *Natolia*, at West Bay, on the East Point; the *Russia* and *Lake Huron*, on the South West Point; and the *Lebanon*, 20 miles west of South Point. No loss of life was sustained in any of these cases.

When the information reached this Department of these wrecks, and that there were valuable dutiable goods on board some of these vessels, two of the cruisers connected with the Marine Police, under the control of this Department, were immediately despatched to the wrecks, for the purpose of preserving order there, and protecting both the goods and the revenue; and in this respect the Marine Police Cruisers have been

found to be very serviceable, as their commanders hold commissions as Customs Officers as well as Fishery Officers.

No wrecks occurred at Scatterie Island last year, where there is a Humane Establishment maintained by the Government.

For some time past, the want of a Harbour Master was much felt at the Port of Halifax, and an Act was consequently passed by the Legislature during its last session, providing for the appointment of such an officer, and empowering the Governor General in Council to make rules and regulations for his government, and a scale of fees for his remuneration, which remuneration should not, however, exceed \$1,600 per annum. Any fees received by him in excess of this amount, are to be paid over to the Receiver General for the purpose of making good any sums which may be appropriated by Parliament for the payment of expenses in connection with the office of Harbour Master, and for the improvement of the Harbour of Halifax. A copy of the rules and regulations, approved by the Governor in Council for the government of this office, along with the scale of fees to be charged by him to the shipping visiting the Port, will be found in Appendix No. 26 of this report. On the 7th October last, Captain Elisha Wood was appointed by the Governor General in Council, Harbour Master of the Port of Halifax.

During last session, an Act was passed making provision for the official shipping and discharging of seamen at such ports in Nova Scotia as might be brought under the operation of the Act by proclamation of the Governor in Council. The Port of Halifax was the only one which up to the present time has been brought under the operation of this Act, and on the 7th October, 1872, Mr. John D. Cummins was appointed Shipping Master by the Governor in Council. As the Act alluded to provides for the payment of this officer by fees which he is allowed to charge for shipping and discharging seamen, no expense is at present incurred by the Dominion Government by the creation of this office. In the event of a general law being passed by Parliament, regulating the shipping and discharging of seamen at all the sea-going ports of the Dominion, this Act will necessarily be repealed, and its provisions embodied in the general law alluded to.

BRITISH COLUMBIA LIGHTHOUSE AND COAST SERVICE.

On the 20th July, 1871, when this Colony became a portion of the Dominion of Canada, the lighthouses and buoys of that Colony were handed over to the care and management of this Department, but owing to the great distance between British Columbia and Ottawa, it was difficult to exercise much supervision over these services until an agent of the Department was appointed. Mr. Pearse, Assistant Surveyor-General, was requested to act temporarily as Agent of this Department, until permanent arrangements were made, and that gentleman acted accordingly as such, until the 17th October, 1872, when Captain James Cooper, formerly Harbour Master at Victoria, was appointed Agent of the Department of Marine and Fisheries in that Province, Inspector of Lights, and Inspector of Steamboats under the Canadian Steamboat Inspection Act, with a salary of \$1,600 per annum. There are only two Lighthouses in British Columbia

at present, viz. :—One on Race Rocks, in the Straits of De Fuca, adjoining the most southerly point of Vancouver's Island, which is a circular stone tower, 105 feet high, from base to vane. It was lit for the first time in 1861, and is a white revolving dioptric light of the second order, flashing every ten seconds. The other lighthouse is on a rock adjoining Fisgard Island, at the entrance of Esquimaux Harbour, near Victoria Harbour. It is a white brick tower, and the apparatus is a dioptric fixed light of the 4th order, shewing white to seaward, and red to the harbour and eastward. There is also a lightship stationed in the Straits of Georgia, at the entrance of Fraser River. The hull of the vessel is painted red, and there is a ball at the mast head. The light is a fixed white catoptric. The lights at Race Rocks, and at Fraser River, consume colza oil, while the one at Fisgard Island consumes coal oil. The cost of maintaining these three lights, between the 20th July, 1871, and the 30th June, 1872, was \$10,011.03, which is much more expensive than the lights in the other portions of the Dominion. The maintenance of the buoys during the same period, was \$2,576.23.

GENERAL EFFICIENCY OF THE LIGHTHOUSE AND STEAM FOG ALARM SYSTEM OF CANADA.

The Trinity House of London, which is the chief lighthouse authority in the United Kingdom, and over which his Royal Highness the Duke of Edinburgh presides as Master, with Captain Sir Frederick Arrow as Deputy Master, recently sent out to this country a committee of their Corporation, consisting of the Deputy Master, and Captain J. Sydney Webb, accompanied by Mr. Edwards, the Deputy Master's Private Secretary, with the object of examining the fog signals in use in Canada, and the United States of America, and obtaining information as to their power and efficiency; and also of acquainting themselves incidentally as far as time would allow, with the working of the lighthouse system in the two countries; and as Her Majesty's Secretary of State for the Colonies requested Your Excellency to afford these gentlemen every facility in your power in furtherance of the object for which they were visiting the Dominion, I requested my Deputy to meet them on their arrival at Quebec, and comply with the wishes of the British Government, in giving them every assistance and information in furtherance of the objects of their mission. They visited in company with my Deputy, some of the principal lighthouses in the St. Lawrence, and the two iron lightships at Red Island Reef and the Manicouagan Shoals, each of which has a steam fog whistle on board, and they also watched the lights between Quebec and Montreal on their way up, as also the lights on the Ottawa River, and on Lake Ontario; and it would appear, by a letter of thanks which these gentlemen were pleased to address to Your Excellency, dated 31st August last, that they were much pleased with the attention that was extended to them by this Department, and that they were much gratified with the efficiency of all that they had then seen, carried out as it was on a system which, though totally different from their own, seemed admirably adapted for the wants of a young and rapidly improving country.

I may here mention briefly, that the difference between the Canadian, and British, and United States systems of lighthouses is simply this. In the United Kingdom, where there is much wealth, and abundance of scientific talent when required, and where the lighthouses are maintained by a system of light dues on shipping, no expense is spared in rendering the services thoroughly efficient. The buildings are all of the most substantial and durable description, built of stone or iron, and the apparatus is nearly all on the dioptric principle, which is very powerful but expensive, although consuming less oil than the catoptric system. The lighthouses there have nearly all two, three, and in some cases four keepers; and at nearly all the principal stations a keeper must

be constantly in attendance during the whole night. Petroleum oil has not as yet been introduced there to any extent, as it has not hitherto been considered perfectly safe; although I think it probable, after the visit of these gentlemen to this country, that it will be gradually introduced into their lighthouses, as being much cheaper and more brilliant than the oil in use there at present, and nearly as safe with ordinary care and ample assistance to watch it while burning during the night. The oil used there costs about 80 or 90 cents per gallon. In this country, with the exception of about twenty very superior costly lighthouses, having stone towers, and nearly all having very expensive dioptric apparatus, the bulk of the lighthouses are mostly of a cheap but substantial description, made of wood, with iron lanterns, and fitted up with catoptric apparatus. A few of the lighthouses have wooden lanterns, which are cheaper than iron lanterns, although not quite so safe. A good and powerful sea light, on the catoptric principle, in Canada, is fitted up complete with modern frame tower, oil shed, dwelling house, iron lantern and large circular-burner lamps, and powerful 20-inch diameter reflectors, for about \$8,000, under ordinary circumstances, and when no extraordinary difficulties intervene; whereas in the United Kingdom, \$100,000 would not be considered an extravagant sum for the outfit of one of their ordinary stone tower dioptric sea lights, and the cost of maintenance would certainly be two or three times as much as that of similar lights in this country, where the oil costs only about 19 cents per gallon on an average. In nearly all the lighthouses in this country, there is only one keeper appointed to attend to the light, and he is generally assisted in his duties by members of his family, instead of having two or three keepers appointed by the Government to take care of the light. In Canada, the cost of management, including salaries of keepers, agents, engineers, &c., is very much less than that either of the United Kingdom or United States; but in this country the extent of sea coast, lake and river shores to be lighted up is so enormous, that in order to secure sufficient light to make our shores approachable with safety, it became absolutely necessary that a cheap but efficient system of lighting should be adopted, in respect both to construction and maintenance, as it is of no importance to the shipping navigation around our shores, whether the lighthouses are built of wood or stone, so long as the light is brilliant, and is maintained with efficiency and regularity.

When I assumed the management of this Department in 1867, I found that there was a great demand on the part of the marine interests of the Dominion for additional lights, steam fog alarms, &c., and that the necessity for such navigation securities was urgent, and would not admit of delay, until the country could become wealthy, and could afford to build expensive lighthouses, such as are to be found in the United Kingdom and in the United States. I therefore urged on the notice of my colleagues from time to time the desirability of placing in the estimates to be submitted to Parliament, sufficient sums to enable me to build annually a limited number of new lights and steam fog alarms on our shores; and in order to do so, I was under the necessity of asking for moderate sums, and erecting a cheap description of strong wooden-framed buildings, taking care, however, to use nothing but high-class powerful lighting apparatus; and consequently, as already mentioned in this report, this Department has succeeded in erecting ninety-three new lighthouses, and has established four new lightships, and ten new steam fog alarms on the coasts of Canada, besides having under contract forty-three new lighthouses, eight steam fog alarms, and two new lightships, all of which has been done within five or six years. The Canadian petroleum oil used for these lights being a powerful illuminant, and being procured at a very small cost, has enabled this Department to maintain not only brilliant and powerful lights, but to do so at, probably, a cheaper rate than in any other country in the world.

In the United States no lighthouse dues are levied on shipping, although there is an annual tax of 30 cents per ton, commonly called the "war tax," which has been levied on vessels entering their ports since the late war. Their lighthouse system has been generally considered a most excellent though expensive one,—the most of their lighthouses being built of stone, with costly English or French dioptric apparatus

The lighthouse authority in the United States, is a Board composed of military engineers and naval officers, with a scientific gentleman at their head, and a secretary to each of the two executive branches. The secretaries are generally military and naval officers of high standing, and are also members of the Board. The United States' coasts are divided into thirteen lighthouse districts, each with an Engineer Officer, and a Naval Inspector, and a steamer for each of these officers in the district is wholly employed in the lighthouse service. The illuminant used in the United States lighthouses is lard oil, which costs 94 cents a gallon, or about five times the price of the oil used in the Canadian lighthouses. They have also generally more keepers in each lighthouse than are in those of Canada, and the salaries are, I believe, much higher.

The Committee of the Trinity House of London, who visited Canada and the United States, for the purpose of examining the respective systems of these countries, made a report to their Corporation on their return to the United Kingdom, a copy of which report they kindly furnished to this Department, and which, as it contains much useful and valuable information on the subject, will be found in the Appendices to this report, (marked No. 37.) In it allusion is made to the peculiarities and advantages of both the Canadian and United States systems. They refer to the lights which they saw in the Gulf and River of St. Lawrence as being very efficient, shewing well a bright light a long distance off, and they allude to those they visited as being scrupulously clean and in good order. With reference to the lights on Lake Ontario, which they saw whilst steaming up the lake, they state that they were observed clear and strong at a distance of fifteen miles, and that the strength and efficiency of these lights, and indeed all the lights under the management of the Canadian Marine Department, struck the Committee forcibly as indicating the high value of the illuminant used, and they characterize the Canadian system as one of simplicity and economy, admirably adapted for a young country, and that a higher ratio of illuminating power is obtained from our mineral oil in catoptric lights than in any other arrangement; and with reference to our fog signal system, they state that while simplicity and economy are also the ruling influences in connection therewith, it is good and effective, and has been of great benefit to the trade.

With reference to the United States' system of lights, the Committee state that looking to their lights from seaward at night, they appear to be good, though in brilliancy they do not seem to equal those of Canada, owing probably to the illuminant being lard oil, of which the photogenic strength is said to be only eight candles per Argand burner; if so, the lights are doubtless inferior. They also state that they noticed in the United States Lighthouses that the apparatus were mostly found clean, well kept, and true in focal position and level, though in some instances a want of care in the internal arrangements was discernible. They also state as their opinion, that in many cases it seemed to them probable that greater efficiency and economy would result, if one branch of their system was accessory to, rather than co-ordinate with the other; either, as in France, the engineering branch the head, or, as in the United Kingdom, the nautical element. The Committee allude to the naval and military officers in charge of this branch of the public service in the United States, as a most able, intelligent, and competent class of gentlemen, but they want under them men amenable to discipline, and less independent, to enable them to carry on the work satisfactorily. They also allude to the abundant regulations in existence, many of which seem to be habitually disregarded.

Although the United States' system is conducted on a large and expansive scale with an extensive staff of high class scientific engineers and naval officers to superintend and work it, the Committee do not appear to be of opinion that it is much, in any way, superior to our own system, which is carried on in the most simple and economical manner. They conclude, however, that both systems have produced excellent working results to the navigation of this continent, and I may here avail myself of the opportunity of cheerfully bearing testimony to the friendly feeling evinced to my Department, not only by the lighthouse authorities in the United Kingdom, but also by those of the United

States ; and I have much pleasure in stating that whenever any information in connection therewith has been asked for by my Department from any of those authorities, it has been invariably furnished in the most kind, ready and prompt manner, shewing a desire on their part to assist us in every possible way ; and the very fact that the chief Lighthouse authority in the world considered it advisable to send a deputation to this country to examine into our system, about which they had heard so much of late, shews the amount of interest they take in such matters, and their desire to keep up to the improvements of the age. The testimony of this deputation, composed as it was of able and disinterested gentlemen of experience, possessing knowledge of the subject under examination as to the systems of lighthouses and fog-signals in operation in the United States and Canada respectively, and the comparative merits of these systems, may be considered as very favourable to our own system, which, although much more simple and economical than that of our neighbours, has been pronounced by these gentlemen as being quite as efficient and useful.

OIL.

The oil required for the use of the lighthouses of the Dominion for 1871, was obtained from Messrs. F. A. Fitzgerald & Co., of the Union Petroleum Works, London, Ontario, the tender of that firm being the most advantageous for the Government. The price at which it was furnished was 21 cents per gallon delivered at Halifax and St. John, 19 cents at Quebec, 18 cents at Montreal, 16½ cents at Hamilton, and 16 cents at Sarnia, giving an average of 19½ cents per gallon, in bond, for the whole quantity. The casks were included in the price of the oil, and when empty, were subsequently sold at various prices, according to the locality at which they were accumulated. The quantity of oil purchased during the last fiscal year was 64,397 gallons, and the total amount paid for it was \$13,484.45. This supply was for the lights of the whole of the Dominion, in all of which Petroleum oil is used, with the exception of those in British Columbia and the Lightship in the Lower Traverse.

On the 8th January, 1872, tenders were again invited for the supply of oil for last year. It was required to be the best quality of standard white Petroleum oil, non-explosive at a vapour test of 105° Fahrenheit, the legal standard, with a specific gravity of 44° Baume, at a temperature of 60° Fahrenheit, the contract to run either for one year, or for a term not exceeding three years at the option of the Department. The contract was again awarded to Messrs. Fitzgerald & Company, and it has since been fulfilled satisfactorily to the Department, although occasional complaints have been received from the lightkeepers as to particular barrels of oil, but on the whole it has given a good brilliant light, and has burned well. The price paid was 23½ cents delivered at Halifax, 23½ cents at St. John, 20 cents at Quebec, 19 cents at Montreal, 17½ cents at Hamilton, and 17 cents at Sarnia, making an average of 21 cents per gallon in bond, for the whole quantity required. The following particulars relating to the oil contracted for last season were reported by the testing officer, viz :—"This is a sample of superior and particularly safe oil, and with a very slight odour. Its vapour flashed at 114° Fahr., and continued to burn at 160° Fahr. Its specific gravity—43° Baume—is one degree below the requirements. It was a little thick at zero, but cleared off quickly, becoming quite clear at 15° Fahr. It burnt brilliantly for sometime, but lost considerably in brilliance after having burnt seven hours. The chimney nearly clear. The wick crusted slightly. This is the best sample of Canadian oil, and if the refiners could be induced to make the specific gravity 44° Baume, instead of 43° Baume, the oil would then meet all the requirements of the Department, and remain sufficiently clear and fluid at the lowest temperature required for the Dominion Lighthouses."

As there has been a considerable number of new lights put in operation recently, and as there is a number still under contract, the quantity of oil which will be required for 1873 will be much larger than the quantity required in past years. The new revolving sea lights, which are of a very high class, have large No. 1 circular burner lamps which

consume a great quantity of oil, and it has been the policy of the Department since its organization to improve the quality of the lights hitherto established, by gradually doing away with the old-fashioned small lamps which were generally in use, more particularly in Nova Scotia, and substituting more powerful lamps in their places, which consume very much more oil than the old ones. It is probable that 90,000 gallons will be required for 1873, but as it will be procured at such a cheap rate, the quantity consumed is not of so much importance as formerly when a high price was paid for it.

The Refining Companies of Canada have recently agreed to combine and form themselves into one company under the title of The Petroleum Refining Company of Canada, so as to control the market and secure a higher price for their oil than they could formerly obtain; and they have so far succeeded well in doing so, as they have gradually advanced the price until in January last it reached 35 cents per gallon by the five car loads. As this Department took the precaution of protecting itself while making the contract in January, 1872, and reserved to itself the option of renewing the contract for one or two years after the first year, it is probable that the oil for 1873 will be procured at as low a figure as last year, which will only be about half the market price now being charged for oil, on which the excise duty has been paid.

DOMINION STEAMERS.

The six steamers under the management of this Department are stationed as follows:—*Napoleon III*, the *Druid*, and the small River Police Steamer *Dolphin*, at Québec; the Trinity House of Montreal Steamer *Richelieu* at Montreal; the *Lady Head* at Halifax; and the *Sir James Douglas* in British Columbia. The *Napoleon* is the largest and most powerful boat of the number, propelled by a screw, and is used chiefly for supplying the distant lights in the Gulf of St. Lawrence, and the Straits of Belle Isle. When necessity arises, she is sometimes used for towing or assisting vessels in distress, if the service is such that private tow-boats cannot be got for the purpose, or are unable to do it with safety; as it is not the policy of the Department to allow the Government steamers under its control to enter into competition in the ordinary towing business of the river with private enterprise. During last year the *Napoleon* only made one trip to Belle Isle and the lights in the Straits, but it is considered advisable that in future she should make two trips to all the lights in the Straits and the Gulf, as she is unable to carry sufficient supplies to them all in one trip, now that the lights are so much more numerous than formerly. The *Druid* is a smaller vessel propelled by paddle wheels, and drawing much less water than the *Napoleon*, and is very useful in attending to the buoy service of the St. Lawrence. She is also employed in supplying the lighthouses in the River St. Lawrence between Port Neuf, about forty miles above Québec, and Pointe des Monts, at the entrance of the River St. Lawrence. The steamer *Lady Head* has been stationed for sometime past at Halifax and on the Nova Scotia coast, and has been employed in the protection of the fisheries, supplying lighthouses and visiting Sable Island Humane Establishment, on which island the Department has been erecting two new lighthouses and two steam fog-whistles. The *Lady Head* has rendered assistance in the case of wrecks when occasion requires her services. All these three vessels are iron boats and were built in Glasgow, the two former in 1856 and the latter in 1857.

The amount earned by the two boats stationed at Québec on account of services rendered to shipping during the year ended 30th June, 1872, was \$634.27.

The amount expended for maintenance and repairs of these two vessels, including the salaries of the agent and his clerks during the same period, was \$47,500, and for the *Lady Head*, \$20,999.63, making altogether the sum of \$68,499.63, while the amount voted by Parliament for this service was \$68,500.

Although the salaries of the agent at Québec, and his clerks, are charged to the two steamers stationed there, they perform all other services in connection with the duties of this Department at Québec, such as lighthouses, buoys, beacons, lightvessels,

steam fog-whistles, river and marine police, and fisheries. In future, however, the salaries of these officials will be placed in the estimates under the head of Civil Government, similar to that of the agents of this Department in the other Provinces.

The steamer *Sir James Douglas* is stationed at Victoria, British Columbia, and was handed over to the care and management of this Department when that colony joined the Confederation of the Dominion, on the 20th July, 1871. She was built of wood in Victoria Harbour, in 1864, for the Government of Vancouver's Island, and was launched on the 1st January, 1865. Her frame is of pine and oak, and she is partially copper fastened and copper bottomed, although the metal on her bottom is very thin, and will require renewing. Her dimensions are as follows:—length of keel, 110 feet; over all, 116 feet; breadth of beam, 18 feet 8 inches; depth of hold at midship, 9 feet; draught of water, 10 feet 6 inches, gross carpenter's tonnage $153\frac{3}{4}$ tons. She is fitted with two diagonal condensing direct acting marine engines of twenty horse power each nominal, combined with a tubular boiler and three furnaces. The engines were imported from the United Kingdom, and the boiler was made in Victoria. The consumption of coal is nine cwt. per hour, and she carries 23 tons. She is propelled by a screw with two blades, and is schooner-rigged with two masts. Her carrying capacity is about 50 tons. She is reported as a very handy little vessel, steams well, is a tolerably good sea boat, and was faithfully and well put together by the contractor in 1864. Her original cost was as follows:—

Hull.....	\$18,729
Machinery and boiler.....	12,253
Outfit	2,000
	\$32,982

She was originally built for the purpose of assisting in the dredging of Victoria Harbour, in connection with a dredger and large mud punts, and was employed in that service during 1865, when it was found to be too expensive for the finances of the colony, and after a short trial in that year it was decided to abandon all idea of dredging the harbour, and she was then left without employment, except occasionally visiting the two lighthouses, the lightship, and the buoys. When it was found that she was unemployed in 1866, the Government of the colony, on a requisition being made to it by the settlers on the east coast of Vancouver's Island, placed her on the route between Victoria and Comox once a fortnight—a distance of 150 miles—calling at Nanaimo and intermediate ports going and returning. Once a week she ran to Nanaimo and back, a distance of 90 miles; and once a month to Sooke, a small settlement to the south-west of Victoria, a distance of $22\frac{1}{2}$ miles.

The *Sir James Douglas* has little or no sleeping accommodation for passengers, although she can seat 15 or 20 passengers below deck. As another steamer has been placed by private enterprise on the route formerly occupied by the *Sir James Douglas*, with much better accommodation, it does not now appear necessary that she should be longer employed in that business, as it is not the policy of the Department to employ any of the steamers under its charge in competition with private interests. She will probably be now employed only in attending on the lighthouses, lightship, buoys and other Government work which may be required. The total cost of maintenance and repairs of this steamer, from the 20th July, 1871, to 30th June, 1872, was \$12,115.96, and the total receipts on account of passengers and freight was \$9,876.65, in addition to which she carried the mails, for which service the Post Office contributed the sum of \$1,885.48.

OBSERVATORIES.

There are only two Observatories in the Dominion with time-balls attached for the purpose of giving correct time to the shipping, and are exclusively supported by

the Dominion Government, under the management of the Department, viz: one at Quebec and the other at St. John.

At Quebec, the Observatory has been in operation for many years, under the able management of Commander Ashe, R.N., who is an enthusiast in all matters connected with celestial observations and photography. He also conducts the meteorological observations at that station in connection with the Meteorological Office at Toronto. An annual grant has been made by Parliament for many years of \$2,400 for the maintenance of the institution at Quebec, out of which Commander Ashe, the Director, is allowed \$1,402.68 (less \$56.04 superannuation tax), the balance is required for pay of assistants, materials, &c. The time-ball is situated at the Citadel, where it is easily seen by shipmasters and others from the harbour, and the ball is dropped every day, during the season of navigation, at one o'clock p.m. (Sundays excepted), so that all vessels can have correct Greenwich time. The sum of \$5,000 was voted by Parliament in the estimates of the current year, for the purpose of rebuilding the Observatory, and the Department of Public Works is now making the necessary arrangements for building a new Observatory with dwelling house attached for the Director, and it is probable it will be ready for occupation during the ensuing summer. It will be erected on the site of the old Observatory, known as the Bonner Farm, and when completed will add much to the convenience of the Director, who will then be able to compute and give the correct time, record and reduce his meteorological observations and carry on his astronomical observations and celestial photography all at one place, instead of having to do them as at present at two places, two miles apart. The ordinary expenditure for this Observatory, during last fiscal year, was \$2,400. In addition to this amount, the sum of \$1,000 was voted by Parliament for the repairs of the time-ball apparatus at Quebec, and this amount has been all expended.

The time-ball at St. John is dropped at 1 p.m. every day throughout the year, (Sundays excepted) and is under the management of Mr. George Hutchison, who is the Director. It is situated at Fort Howe, about a mile from the Custom House, and although it has been found to be of great service in giving correct time to the shipping, as well as for local purposes, it is rather at an inconvenient distance, and arrangements are now being made to have it moved to the roof of the Custom House, where it will be much better seen and will be more convenient, being close to the shipping and the business portions of the city. The amount voted for this service for the last fiscal year was \$1,000, and the amount expended was \$634.55, out of which the Director received a salary of \$500, the balance being expended for assistance and materials.

The sum of \$1,500 was voted by Parliament to be expended, during last fiscal year, for an Observatory at Halifax, but no part of this was expended, as the necessary arrangements were not made for its erection, and some doubts have been expressed as to the necessity for such a building at that place. Further enquiries will be made, however, on the subject.

METEOROLOGICAL OBSERVATIONS.

The system of taking meteorological observations in Canada under the supervision and at the expense of the Dominion Government has been of very recent origin. Such observations have been made from time to time by amateur observers, and the results thereof have found their way occasionally into the public newspapers, but no organized system of taking them was in existence until recently, and they were consequently of little practical value for the purpose of being tabulated to furnish reliable data from which the laws of storms could be ascertained. Previous to 1871, Professor Kingston, of the Toronto Magnetic Observatory, had been making efforts to introduce a system of meteorological observations throughout the Dominion, and applied to this Department to obtain the services of some of the Light-keepers in its employment for the purpose of obtaining weather observations at certain stated periods of the day, and every assistance

was accordingly given him in the matter. In order to render the system useful, however, it was found that it would be necessary to have a certain number of Chief Stations in different parts of the Dominion, where the services of the observers would have to be remunerated, and that it would also be necessary to procure a certain number of instruments for the stations, both chief and ordinary. I, therefore, recommended to the Government to place the sum of \$5,000 in the estimates for the purpose, and that amount was voted by Parliament accordingly. The whole of this amount was expended during last fiscal year, but it was found quite insufficient to do anything more than merely collect information and exchange weather telegrams between the Weather Signal Officer in Washington and the Director at Toronto. My object in recommending the grant was with the view of preparing the way for a system which could co-operate with that of the United States, and furnish weather telegrams and storm signals to our commercial centres and the chief shipping ports in the Lower Provinces; but when I found that this sum was totally inadequate to establish a proper system, on account of the great expense of the telegrams, I recommended in the beginning of 1872 that \$10,000 should be placed in the estimates for the current fiscal year, and that amount was voted accordingly. Since this amount has been made available the system has been much extended, and regular telegrams have been sent to the Director at Toronto three times daily from the stations at Saugeen, Port Stanley, Port Dover and Kingston in Ontario, and Montreal and Quebec; and after examination, they have been sent along with a similar report from Toronto to Washington. Later in the year, Halifax and Fort Garry have also been added as telegraph reporting stations. Owing to the limited amount available for telegraphic expenses, the Director has only been able to avail himself of the regular morning weather telegrams from the United States from five stations. The telegraphic information thus collected at Toronto from the Canadian and American stations is tabulated at once, and either the aggregate of facts so collected, or prognostications founded on them communicated to Canadian ports.

As the vote has hitherto been so small, it has been quite out of the power of this Department to authorize weather observations or prognostications to be sent by telegram to all the commercial centres and principal shipping ports in the Dominion at the expense of the Government, but the Director has been quite ready to furnish weather telegrams to any of the sea ports or places at which arrangements were made to receive them, and to defray the cost of the telegrams. At Montreal and Halifax such arrangements were made, and local bodies consented to defray the cost of the daily telegrams from Toronto, and each day a description of the weather at 7:25 a.m., at certain stations, comprising four on the Atlantic seaboard, was sent to each of those two places through the meteorological observers of this Department at the stations alluded to. Occasionally when notices of disturbances in the weather, indicating approaching storms, have been communicated to the Director at Toronto from the Signal Office at Washington, he has forwarded them by telegraph to the regions concerned, where it was probable the storms might be expected; and since the beginning of last autumn he has sent fifty-four warnings to ports on the lakes, on the St. Lawrence and the Lower Provinces. In consequence, however, of these warnings having been sent at irregular hours, when the use of the telegraphic wires could not be obtained at once, delays occurred, and the value of the warnings have been in some measure impaired; not only on this account, but also owing to the fact that the system is as yet in such a crude and incomplete state in Canada for want of the necessary arrangements to make the information public and of service on its arrival at its place of destination.

In order to render the system thus commenced in Canada complete and of service to the trade of the country, it would be necessary to have provided at each of the principal commercial ports and important points where vessels are trading, a signal mast and storm drum, with the necessary hoisting arrangements, and a paid officer to receive the telegrams, to hoist and haul down the drum, and to post the written notices. Until the weather telegrams can be sent to the principal shipping ports, and the necessary arrangements made for their publicity with regularity and immediate despatch at the expense of

the Government, it is not probable that the system will be of much immediate practical benefit to the marine interests of the country. In order to accomplish the beneficial results alluded to, it would probably be necessary to expend annually about \$30,000 or \$35,000, as the extent of our country is so great and the expense of telegraphing so large. In the United States the meteorological observations and weather telegraphy is conducted by the War Department, and their observers are for the most part trained non-commissioned officers, whose pay is not directly chargeable to this particular service, and who perform military duty when required. I have been informed that, as near as can be ascertained, the cost of their system, which embraces upwards of sixty-five stations, with regular paid observers scattered over an immense extent of territory ranging from the Atlantic to the Pacific, falls not short of \$400,000, while in Canada there are at present eight chief stations including Toronto, eleven reporting telegraph stations, one hundred and four ordinary stations, besides one in Prince Edward Island and two in Newfoundland, and the expenditure was only \$5,000 last fiscal year, and will be \$10,000 this current fiscal year.

The Meteorological Department of the Board of Trade in England, under the charge of Admiral Fitzroy when he was living, was transferred at his death to the Meteorological Committee of the Royal Society, which consists of eight of its Fellows, who are scientific gentlemen of high attainments, and who give their services gratuitously. They receive from the Government on account of this service the sum of £10,000 sterling annually, for the administration of which they are wholly responsible, and over which they are given the entire control. They have a staff of officers under them, the chief of which receives £800 sterling per annum. In the United Kingdom there are 128 stations furnished with storm drums, and on the approach of a storm, the drum is usually kept hoisted 48 hours. The messages sent from London consist of orders to hoist the drum, accompanied by a brief explanation of the reasons why it is to be hoisted. The messages are posted up at the stations as soon as received, for the information of the public.

The entire cost of telegraphing these messages is borne by the Meteorological Office out of the amount alluded to and the only charge borne by the local communities who receive the storm telegrams is the payment to the men who hoist the signals.

Messages sent out from the Meteorological Office in London are charged at the ordinary tariff rates of 1s. for twenty words; messages received from Observing Stations are charged at press rates, viz., 1s. for 100 words by night, and 1s. for 75 words by day. This arrangement only refers to reports in the United Kingdom. Foreign reports come by special arrangements.

The Meteorological Committee of the Royal Society of London have been issuing, since November, 1867, notices of serious atmospheric disturbances on the coasts or in the vicinity of the British Islands, free of cost, to ports, or fishing stations on the following mentioned conditions, viz. :—

“They will be forwarded in each case as soon as information of the atmospherical disturbance shall have been received at the Meteorological Office, and the ports or fishing stations to which they are to be sent will be determined by the Board of Trade.

When the list of places to which notices may be sent has been determined by the Board of Trade, it will rest with the Meteorological Committee, in each case of atmospherical disturbance, to send notices to all or any of those places, as the circumstances of the particular case may appear to the Meteorological Office to be advisable.

When a telegraphic notice of atmospherical disturbance is received at one of the places named on the Board of Trade list, its receipt is to be made public by hoisting one of the late Admiral Fitzroy's drums, and the drum is to remain hoisted for 36 hours (subsequently changed to 48 hours) after the receipt of the telegraph message containing the notice.

One telegraphic notice implies that the drum is to remain hoisted for 36 hours, (subsequently changed to 48 hours) and no longer.

Should the Meteorological Committee think it necessary that a drum should remain hoisted for more than 36 hours (subsequently changed to 48 hours) in any case, they

will send messages to that effect, and continue them from day to day so long as it appears desirable, or until the storm shall have abated.

If the authorities at any port or fishing station wish to receive intelligence of atmospherical disturbances, and will undertake to hoist the drum, subject to the conditions named, and subject to such regulations or directions as may from time to time be issued by the Meteorological Office, an application should be addressed to the Secretary to the Meteorological Committee, 2 Parliament Street, Westminster, S.W., in order that the necessary steps may be taken to place the name of the station on the Board of Trade list, and to provide the flagstaff and drum.

It is to be understood that where the place or station can pay for a flagstaff and drum they will be expected to do so, if a staff and drum are not already provided; and that where it is made to appear to the Board of Trade that no staff and drum are provided, and that the place is too poor to bear the expense, then the cost will be defrayed by the Meteorological Office, with the sanction of the Board of Trade.

But in all cases, whether the first cost of the flagstaff and drum are or are not borne by the local authorities, the local authorities must undertake to bear all subsequent charges connected with the hoisting of the signal, and the maintenance of the signal apparatus.

The only subsequent expense that will be defrayed by the Meteorological Office will be in charge for transmission of the notices of atmospherical disturbances."

The report of the Director of the Observatory at Toronto, with accompanying tables, will be found in the Appendices (No. 16) and contains much useful and valuable information, and if the system is to be continued, the tables will furnish important data from time to time relative to the meteorology of this extensive country.

IMPROVEMENT OF HARBOURS.

In 1869 there were several applications to the Government from persons interested in certain small harbours in the Dominion for assistance from the Public Treasury to deepen and improve them, and as such contemplated improvements at some of these harbours were more of a local character than for the general interests of the navigation of the Dominion, or for Harbours of Refuge, an Act was passed—32 and 33 Vic., cap. 40—imposing a duty of 10 cents per ton on vessels entering such Harbours as were proclaimed by Order of Your Excellency in Council to be under the operation of this Act. The Act was intended to apply only to those ports at which improvements were required to be made by the parties interested, and who were willing that such ports should be placed under the operation of the Act. The only ports which have yet been proclaimed under the operation of this Act are Bathurst and Richibucto in New Brunswick, House Harbour and Amherst Harbour in the Magdalen Islands, and the Port of Cape Chatte in the County of Gaspé, in the Province of Quebec. The port of Cape Chatte was placed under its operation on the 13th March, 1871.

The amount collected at the ports referred to, on account of this service, for the year ended 30th June, 1872, was as follows:—

Bathurst, 49 vessels, 7,703 tons.....	\$ 770 30
Richibucto, 68 vessels, 11,738 tons.....	1173 80
House Harbour, 17 vessels, 669 tons.....	66 90
Amherst Harbour, 48 vessels, 2,196 tons.....	219 60
Cape Chatte Harbour, District of Gaspé, 6 vessels, 261 tons.....	26 10
	\$2,256 70

The amount collected for the year ended 30th June, 1871, on account of this service was \$3,571.90, and for the year ended 30th June, 1870, \$3,524.60.

The improvements under this Act are made by the Department of Public Works, an account of which will be found in the Report of that Department for the last fiscal

year. The amount expended on account of such improvements during last fiscal year was \$5,219.88.

The total expenditure under this Act during the three last fiscal years was \$11,570.75, while the receipts during the same period were \$9,313.20, shewing an excess of expenditure over receipts of \$2,217 55.

At the port of Richibucto the sum of \$2,000 was expended during last fiscal year for tug service, and a contract will shortly be made by the Department of Public Works for the erection of a pile breakwater at that place. A contract was also made for the removal of the wreck which was sunk at the entrance to the harbour. The new steam dredge was also employed during last season dredging in this harbour.

At Amherst Harbour, Magdalen Islands, the amount expended during last fiscal year on account of work performed in clearing its entrance was \$2,427 68.

At Cape Chatte Harbour the amount expended in clearing the obstructions from the entrance to the harbour during last fiscal year was \$792 20.

HARBOUR AND RIVER POLICE.

Under the Act 31 Vic., cap. 62, a Water Police Force is maintained both at Montreal and Quebec for the purpose of preserving order among the shipping and on the wharves. Vessels visiting these ports pay three cents per ton, of 100 tons or under, once a year; over 100 tons, twice a year.

At Montreal the force is under the able management of Judge Coursol, Commissioner of Dominion Police, assisted by the Chief Constable of the force, Mr. John McLaughlin. The force at this port numbers 25 men, including the chief, and they are all provided with good official uniform in addition to their pay. During last fiscal year, until the 18th of June, the chief received pay at the rate of \$2.50 per diem, or \$912.50 for the year. Four of the sergeants were retained on pay through the winter for the purpose of protecting shipping property, &c., in the canal, and these men received at the rate of \$1.50 per diem throughout the year. The other 20 men were employed from the 1st April to the 30th November at the rate of \$1.00 per diem, and at \$1.10 per diem from the 1st April till the 18th of June last. In addition to this there was a good conduct reward of ten cents per diem for the season paid to the constables of this force at the close of navigation in 1871. It was found, however, that wages of all kinds had increased so much, and living in large cities had become so much more expensive, that it was considered advisable to increase the pay of the force on the 18th of June last—the chief to \$3, the sergeants to \$1.90, and the men to \$1.50 per diem. The total cost of the force at Montreal during last fiscal year, including the pay of the chief and official clothing for all of them, office rent, fuel and other contingencies, was \$10,000. Some of the amounts paid out of the last year's vote, however, were for services performed during the previous year, and at the close of the fiscal year some accounts had to remain unpaid as the vote was exhausted. No boats are employed at Montreal, as the vessels are all moored to the wharves.

At Quebec the force for some years past consisted of a chief, two coxswains, and 22 men, making 25 men altogether, including the chief. When Mr. Russell, the Chief of the River Police, was also appointed Shipping Master on the 7th January, 1871, his salary was increased from \$800 to \$1,200 for the two offices. At this port the chief receives his instructions direct from the Department at Ottawa, while in Montreal the chief receives his instructions through the Commissioner of Dominion Police. During the spring of 1872, after the spring fleet, which was very large, had arrived in Quebec, it was found very difficult to maintain order with this limited number of men, and several breaches of the peace occurred on board ships and on the wharves, principally owing to the determination of the crimps to persist in decoying or stealing sailors from their ships; and on one occasion, on board a foreign ship, a crimp, on finding that he could not succeed in persuading one of the crew to desert, shot him dead on the spot. A large reward was offered

for the apprehension of the murderer, but he succeeded in escaping and has not since been found. Directions were then given to increase the force from 25 to 31 men, and eight men additional, including the chief, were ordered to Quebec from the police force at Montreal, making at that time 39 men on the force at Quebec. When the bulk of the spring fleet had left, the chief of the Montreal force, with his seven men, returned to their duty at Montreal. In the fall of the year another death occurred in connection with the crimping business, but in this case it was a crimp who forfeited his life on account of his interference with some of the crew of a ship which was then lying in the harbour. It appeared that the captain prevented the crimp's interference with his crew when the crimp attacked the captain, who in self-defence struck the crimp with an axe and killed him.

In order to prevent the repetition of such infamous transactions at this port, I purpose to increase the force very materially, and provide a strong night watch both afloat and on the wharves, so as to keep order among the shipping. It is very probable that the cost of such an increased force will exceed the receipts derived from the dues collected from the shipping on account of this service, and the question will arise as to the necessity for an increase of this special tax on the shipping visiting Quebec and Montreal; but I believe the interests which contribute to this fund will not object to pay a reasonable increase for the purpose of maintaining order.

The amount collected at Quebec on account of this service during last fiscal year was \$21,956.87 against \$17,102.73 during the previous year.

The amount collected at Montreal during the same period was \$5,258.93 against \$4,132.33 during the previous year.

The total amount collected at both ports during last fiscal year was \$27,215.80 against \$21,235.06 during the previous fiscal year, shewing an increase on last year's collections of \$5,980.84.

The expenditure at Quebec on account of this service during the last fiscal year was \$10,348, which sum includes the pay of the force, clothing, contingencies, boats, and the maintenance of the river police steamer *Dolphin*. This sum also includes the pay of the chief and shipping master and the clerk, but a considerable amount of fees are collected in the shipping master's office which is paid into the public treasury. The pay of the force at Quebec up to 1st June, 1872, was as follows, viz: Chief of water police and shipping master, \$1,200 per annum; clerk, \$800 per annum; steersman, \$1.80 per diem; detective, \$1.60 per diem; coxswains, \$1.40 per diem each; and the constables, \$1.10 per diem each. In addition to these rates there was a reward of ten cents per diem allowed, at the close of navigation in 1871, to such of the men as by their good behaviour merited it. On the 1st of June last the pay of the steersman was increased to \$2.10, that of the detective to \$2, the coxswains to \$1.80 each, and that of the constables to \$1.50 each per diem.

The total amount expended during last fiscal year at both ports was \$20,348, against \$17,400 during the previous year, but some of the liabilities of last year had to be paid out of the vote of the current year, owing to the amount voted for the service last year having been exhausted.

The amount voted by Parliament for this service during last year was \$20,348.

The receipts of last fiscal year exceeded the expenditure by \$6,867.80, but very little of the increased expenditure of the season came into the accounts of the last fiscal year, and when the vote became exhausted no further expenditure could be made. During the six months ended the 31st December, 1872, the receipts from this tax were \$17,194.50, while the expenditure was \$22,451.77, a larger amount than the whole of the last year's fiscal expenditure. This increase, as already explained, was owing to increased rate of pay which became necessary, and increased number of the force at Quebec; and in all probability this increase must continue, which will necessitate an increase of the dues so as to make the service self supporting.

The receipts and expenditure on account of this service during the four and a half years ended 31st December, 1872, were as follows, viz: —

	Receipts.	Expenditure:
Fiscal year ended 30th June, 1869	\$21,952 83	\$22,358 91
" " 1870	23,996 68	18,461 83
" " 1871	21,235 06	17,400 73
" " 1872	27,215 80	20,348 00
Six months ended 31st Dec., 1872	17,194 50	22,451 77
	<u>\$111,594 87</u>	<u>\$101,021 24</u>
Deduct expenditure from receipts	\$101,021 24	
Excess of receipts over expenditure during the four and a half years ended 31st Dec., 1872.....		\$10,573 63

SICK AND DISTRESSED MARINERS.

Under the Act 31 Vic., cap. 64, all sick or disabled mariners in the Provinces of Quebec, New Brunswick and Nova Scotia, belonging to vessels which have paid sick mariners' dues under the Act alluded to, are taken care of either in a Marine Hospital, if there is one at the place where the seamen may happen to be, or provided for by the Collectors of Customs in private lodgings at places where there are no suitable hospitals. At Montreal, the sick mariners are taken care of at the General Hospital under an arrangement with the Department at the rate of \$4.20 per week. In this establishment, which is very comfortable and well arranged, they receive every attention necessary and the best medical attendance which the city can afford, as the principal physicians of Montreal all take much interest in the institution. At Quebec, sick mariners are taken care of in the Marine and Immigrant Hospital, which is maintained by the Dominion Government, and which is also a very fine institution. At St. John, there is a Marine Hospital specially set apart for sick and disabled mariners, and although the buildings are old it is very comfortable and is surrounded with fine grounds. At Halifax, sick mariners are provided for at the Provincial and City Hospital at a cost of \$5 per week. At St. Andrew's, Richibucto, Miramichi, and Bathurst, in New Brunswick, there are small Marine Hospitals, maintained exclusively for the use of sick mariners, under the management of this Department, and it is purposed to erect Marine Hospitals, to be devoted entirely to the use of sick mariners, at Yarmouth and Pictou, in Nova Scotia, and at Sydney, Cape Breton, as much difficulty has been found to exist at these places in taking care of sick mariners, more particularly when the disease was of an infectious nature, such as small-pox or fever, as the owners of private boarding houses were unwilling to admit that class of patients into their houses.

With Marine Hospitals at these four principal ports in Nova Scotia and at the five principal ports in New Brunswick, sick and disabled mariners in these two Provinces will be well provided for, and patients from any of the smaller ports in the neighbourhood can generally be sent to those hospitals without much inconvenience. If they are too sick, however, to be moved, they are always taken care of on the spot by the Collector of Customs, whose duty it is to attend to this business. By the Act 35 Vic., cap. 38, passed last session, the Sick and Distressed Mariners' Act, 31 Vic., cap. 64, was extended to British Columbia, to take effect on the 1st January, 1873, and it is intended to build a suitable Marine Hospital at Victoria for the exclusive use of sick mariners, which will probably cost \$20,000. The sick mariners' dues to be collected on shipping arriving at any of the ports of British Columbia are the same as are collected at the ports in Quebec, New Brunswick and Nova Scotia, viz., two cents per ton; vessels of 100 tons or less to pay once a year, and vessels over 100 tons to pay twice a year. Vessels trading from one port to another of the same Province are not liable for this tax, and the crews of such vessels are not entitled to relief from this fund.

The total amount collected on account of this branch of the public service, during the year ended 30th June, 1872, was \$34,911.64, as appears by the returns which the Collectors of Customs are required by law to make to this Department.

The amount paid in to the Receiver-General's Department, as appears by the Public Accounts, differs slightly from this amount, as it is probable collections have been made at some of the small ports immediately previous to the close of the fiscal year, and which may not have been paid over for some time after. Such amounts, if they did not reach the Receiver-General until after the close of the fiscal year, will not appear in his accounts until the following year.

The amount collected during the fiscal year ended 30th June, 1871, was \$29,683.41, shewing an increase in 1872, over the previous year, of \$5,228.23.

Of the total amount collected, the Province of Quebec contributed \$19,217.04; New Brunswick, \$7,663.39; and Nova Scotia, \$8,031.21.

At the Port of Quebec the sick mariners to be taken care of are much more numerous than at any other port in the Dominion. The Marine and Immigrant Hospital, in which they are treated, is a fine, large, commodious building, and is open to three classes of patients, viz.: sick and disabled seamen; sick immigrants, who may have come direct up to Quebec without being sent to Grosse Isle, or who may have fallen sick after leaving Grosse Isle, the quarantine station of the River St. Lawrence; and residents of Quebec. Owing to this hospital having been devoted to these three classes of patients, of which the immigrants and residents formed a large portion, it was deemed advisable by the Government some years ago to place it under the management and control of the Department of Agriculture, but as the sick mariners also form a large portion of the patients, and as it is maintained chiefly for the benefit of mariners, for which the shipping is taxed, it is purposed by the Government to place it again under the control of this Department. Although the hospital is open for the reception of patients who are residents of the City of Quebec, its doors are not closed against any one who stands in need of its aid and protection, and residents of the Province of Quebec, as well as those of Ontario and the other Provinces, are readily admitted into it in the event of their requiring its assistance, owing either to disease overtaking them when away from their homes, or in the event of their meeting with some accident. It is managed by three Commissioners, with Professor Sewell, M.D., of the Laval University, as their chairman, and Dr. Wells as their Secretary. A resident physician and surgeon—Dr. Catellier—who lives in the hospital is in general attendance; and Drs. Landry, Rowand and Lemieux take their turns in attending the patients of the hospital, in addition to Dr. Catellier. The total expenditure of the hospital during last fiscal year was \$21,974.21. Of this amount the Local Government of Quebec paid its annual contribution of \$4,000, in consideration of the expenses incurred in treating and maintaining patients from the Province of Quebec. The amount contributed by paying patients during the last fiscal year was \$121.50, and there were some minor receipts from other sources amounting to \$193.00, amounting, with the contribution received from the Government of Quebec, to the sum of \$4,314.50, leaving the amount of \$17,659.71 to be defrayed by the Government of Canada. The total number of patients treated in the hospital during the last fiscal year was 1,410, making 29,470 days in the hospital. Of this number, 861 patients having 12,982 days' treatment were mariners; 454 patients having 14,805 days' treatment were chiefly residents of the Province of Quebec; and 95 patients having 1,683 days' treatment were immigrants. By apportioning the total cost of the maintenance of the hospital, the cost of maintaining the sick mariners amounts to \$15,911.44; the residents, \$4,000; and the immigrants, \$2,062.77. The average cost of maintaining and treating the patients in this hospital during last fiscal year was 74½ cents per diem, or \$5.21 per week.

At Montreal the number of sick mariners who were treated in the General Hospital during the last fiscal year was 214, and the amount paid to that institution for their maintenance was \$2,452.80.

The total amount paid by this Department during last fiscal year for the treatment and maintenance of sick mariners in the Province of Quebec, including the amount paid to the hospital at Montreal and the amount paid for the treatment of sick mariners at the outports, was \$3,312.70, to which should be added the cost of the sick mariners in the Quebec Hospital, viz., \$15,911.44, making altogether the sum of \$19,224.14 for the treatment of sick and disabled mariners in the Province of Quebec.

The amount paid on account of shipwrecked and distressed mariners in the Province of Quebec during last fiscal year was \$1,491.15, making a total of \$20,715.29 disbursed by the Government on account of sick, disabled, shipwrecked and distressed seamen in that Province. The amount of sick mariners dues collected in the Province of Quebec during last fiscal year was \$19,217.04, leaving an excess of expenditure over receipts in that Province of \$1,498.25, after providing for all the sick and distressed mariners in that Province who were entitled to relief.

The amount expended on account of sick and disabled seamen in New Brunswick during last fiscal year was \$8,712.19, and for shipwrecked and distressed seamen \$222.55, making a total expenditure of \$8,934.74 in that Province on account of sick and distressed mariners. Of this amount \$1,471.20 was expended on the Hospital at St. John, while the receipts at that port from this fund were \$1,490.26.

The expenditure on account of the Seamen's Hospital at St. Andrews was \$768.53; at Richibucto \$1,096.85, at Miramichi \$1,081.13, and at Bathurst \$311.49. The amount expended at all the other ports at which there are no marine hospitals was \$982.99, making a total expenditure in that Province on account of sick mariners of \$8,712.19. The amount expended on account of shipwrecked and distressed mariners in New Brunswick was \$222.55. The total receipts in New Brunswick on account of this fund were \$7,663.21, making an excess of expenditure over receipts in that Province of \$1,271.53.

The amount paid during last fiscal year to the Provincial and City Hospital at Halifax for the care and treatment of sick mariners was \$2,403.99, and the rate at which they are maintained and treated there is \$5 each per week. At all the outports in Nova Scotia the amount expended on account of sick mariners during the same period was \$4,090.50, making a total expenditure in that Province on account of sick mariners of \$6,494.49. The amount expended in Nova Scotia on account of distressed and shipwrecked mariners was \$1,876.22, making a total expenditure of \$8,370.71 on account of sick, disabled, distressed and shipwrecked seamen. The amount collected in that Province during the last fiscal year was \$8,031.39, making an excess of expenditure over receipts of \$339.32.

The total expenditure by this Department on account of sick, distressed and shipwrecked seamen during the last fiscal year in the Provinces of Quebec, Nova Scotia and New Brunswick was \$23,036.16, while the amount voted for this service was \$25,269.51.

The amount expended by this Department for sick and distressed mariners, and the cost of maintaining the sick and distressed mariners at Quebec, viz., \$15,911.44, made the total cost of maintaining the sick and distressed mariners in these Provinces \$38,947.60. Deducting the amount collected from the shipping on account of this service, viz., \$34,911.64, from the amount expended, viz., \$38,947.60, leaves an excess of expenditure over receipts of \$4,035.96.

The amounts of receipts and expenditure on account of this service during the last four years were as follows:—

		Receipts.	Expenditure.
For the fiscal year ended 30th June, 1869		\$31,353 78	\$26,987 04
do	do	1870 31,410 46	27,029 34
do	do	1871 29,683 41	28,978 22

<i>Carried forward.....</i>	<i>\$92,447.65</i>	<i>\$82,994.60</i>
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	Receipts.	Expenditure.
<i>Brought forward</i>	\$92,447.65	\$82,994.60
For the fiscal year ended 30th June, 1872	34,911 64	38,947 60
	\$127,359 29	\$121,942 20
Deduct expenditure from receipts.....	121,942 20	
Balance to the credit of the fund in the hands of the Government.....	\$5,417 09	

No tonnage duty for the support of sick and distressed mariners is levied on ship-
ping in Ontario, but an annual grant of \$500 has been made by Parliament for the last
three fiscal years, as a contribution in aid of sick mariners at the St. Catharine's
Hospital. This hospital has been of great service to the mariners on the lakes, as in the
event of sickness or accidents overtaking them, they can always find a comfortable home
at this excellent and well managed Hospital, which is situated near the Welland Canal,
through which a large portion of the Lake shipping is continually passing.

The reports on the different hospitals under the superintendence of this Department
will be found in the appendices of this report, Nos. 10 and 11.

CERTIFICATES TO MASTERS AND MATES.

Under the Canadian Act, 33 Vic., Cap. 17, [which was specially confirmed by Her
Majesty in Council, candidates for certificates of competency as masters and mates are
now examined at Halifax, St. John and Quebec, and if found qualified receive their cer-
tificates, which are acknowledged in the United Kingdom as equal to certificates granted
in that country under the authority of the Board of Trade. A copy of the Order by Her
Majesty in Council and of the Canadian Rules and Regulations under which the candi-
dates are examined will be found in the appendix No. 23.

The Board of Examiners at each of the ports named consists of two local members,
with Captain Scott, R. N., as chairman, who moves about from place to place as he is re-
quired. Under this system all the candidates have to pass through a similar examination,
as the chairman must sign the necessary certificates in each case, and is held responsible
for the efficiency of the examinations, which are similar to those held in the United
Kingdom.

The chairman receives a salary of \$1,600 per annum, and the local members of the
Board receive each \$4 per diem when engaged in the duties of the Board. The duties of the
chairman having increased so much in holding examinations at the different places so far
apart, it has been found necessary to give him the assistance of a clerk, at \$800 per annum,
to attend to the correspondence, and keep the office open at Halifax, that place being the
chairman's headquarters.

It was also found necessary, in order to ensure the success of the scheme while start-
ing, to grant a subsidy to instructors at each of the ports named, for the purpose of pre-
paring candidates for the examinations, which are very strict; for without preparation
by instructors very few of the candidates could expect to pass. Messrs. McNally and
Seaton, who had been experienced instructors in the United Kingdom, undertook this
duty, and agreed to keep open schools for naval instruction throughout the year at Quebec,
Halifax, and St. John; and in addition to the fees which they charge the candidates, this
Department arranged to give them a subsidy of \$1,500 for one year commencing on the
18th May last, for the three ports. Other instructors have also recently been preparing
candidates at Halifax and St. John, and these instructors have also claimed a subsidy for
each master and mate whom they have successfully prepared.

The number of candidates who have passed successful examinations for masters' cer-
tificates of competency and obtained certificates, between the 16th of September, 1871—

the date upon which the first certificate was granted—and the 31st December, 1872, was 235; and the amount paid for these certificates at the rate of \$10 each was \$2,350. Of these, 68 passed at Halifax, 144 at St. John, and 23 at Quebec. During the same period, 46 mates passed and received their certificates of competency; and the amount paid at the rate of \$5 each, was \$230. Of these, 4 passed at Halifax, 5 at St. John and 37 at Quebec. The number of masters who passed during the fiscal year ended 30th June, 1872, was 101, and mates 24; and during the six months ended 31st December, 1872, 134 masters and 22 mates passed and were granted certificates.

Certificates of service are granted under the Act alluded to, to masters and mates who occupied such positions previous to the first of January, 1870; and although such certificates enable the holders of them to clear their vessels in Canada, they are not recognized in the United Kingdom. No examination is held of the candidates as to their competency previous to granting them. All that is required is evidence of their sobriety, experience and general good conduct on board ship. The fee charged for these certificates is \$5 for a master and \$3 for a mate.

The number of certificates of service issued during the fiscal year ended 30th June, 1872, was 41 for masters and 3 for mates. The total number issued up to the 31st December, 1872, was 274 for masters and 73 for mates.

The combined amount of fees received on account of certificates of competency and service during the fiscal year ended 30th June, 1872, was \$1,726, and for the six months ended 31st December, 1872, \$2,913; making the total amount received on account of this service up to the close of 1872, \$4,639.

The amount expended for this service, including the salary of the chairman, travelling expenses, printed forms, pay of the local members of the Board, aid to naval instructors, &c., for the fiscal year ended 30th June, 1872, was \$1,312.07; while the amount voted by Parliament was \$6,200; leaving a balance of \$1,887.93 to revert to the Treasury.

The receipts from certificates to Masters and Mates from the commencement of the Act, up to 31st December, 1872, was \$4,639; while the expenditure on account of this service for the same period was \$3,950.84; showing an excess of expenditure over receipts of \$4,311.84. As it is probable that in future it will not be necessary to expend much in aid of instruction, it is likely that the receipts will not fall much short of the expenditure.

A list of the successful candidates who have obtained certificates of competency will be found in Appendix No. 23. The list of those who obtained certificates of service is also given in that appendix.

STEAMBOAT INSPECTION.

Under the Acts 31 Vic. cap. 65, and 32 and 33 Vic. cap. 39, all steamboats registered in the Dominion of Canada, if running or navigating in our waters, must be annually inspected by a Government Inspector, whose duty it is to see that they are safe, as regards their hulls, boilers, machinery and outfit, including boats, life-preservers, etc. To attend to this duty there are seven inspectors, who are paid salaries by the Government; while the inspection fees which are levied on the steamers, are paid into the Treasury.

The fees chargeable on steamers for their inspection and certificate are as follows viz: For every steamer not exceeding 100 tons burthen \$5; and for every steamer over 100 tons burthen \$8; and ten cents per ton is also charged irrespective of size.

For the examination and licensing of engineers the following is charged, viz: For each certificate granted \$5, and for each renewal \$1.

The total amount of inspection fees, including those received for examining and licensing engineers, is considerably more than sufficient to defray all the expenses connected with this branch of the public service; thereby relieving the general revenue of the country from any expenditure whatever on account of such service.

The Inspectors of Steamboats meet together in different parts of the Dominion at stated periods and form a Board, with one of their number as chairman, for the purpose of examining and licensing engineers, and discussing subjects in connection with the ins-

pection of steamboats and procuring uniformity in their system of inspection. The Chairman, Mr. S. Risley, is inspector of the western section of Ontario, including Toronto and all the ports to the westward, St. Catharines and the Ports on Lake Erie and Lake Huron. His duties increased so much, however, that it was found necessary last year to appoint an additional inspector for that district, so as to prevent inconvenience and delay to the trade, and to insure the presence of an inspector in that large district when the Chairman might require to be absent in other parts of the Dominion. Mr. Walter J. Meneilly was accordingly appointed an inspector for that division on the 29th February, 1872, with a salary of \$1,000 per annum. On the 11th June last, Mr. Thomas Fessenden, the inspector for the Montreal division, died, and no permanent appointment has yet been made in his place. Any person nominated for the position of a steamboat inspector under the Act, must pass a satisfactory examination before the Board of Steamboat Inspection, and procure a certificate that he is qualified to perform the duties, before he can be permanently appointed. The chairman receives a salary of \$1,400; the inspector for the Nova Scotia and New Brunswick District, as also the recently appointed co-inspector at Toronto, each receive \$1,000; while the other inspectors at Kingston, Sorel and Quebec, each receive \$800 per annum. It is probable, however, that the scale of salaries for this branch of the public service may have to undergo some revision, as the work is gradually increasing, the expenses of living are increasing, and there is a surplus of revenue arising from the fees over the expenditure, which at present reverts to the public Treasury.

The amount voted for this branch of the public service for last fiscal year was \$8,500, the whole of which was expended.

The amount of collections made during the last fiscal year on account of Steamboat Inspection dues was \$10,395.46, and for licenses granted to engineers \$1,315, making a total of \$11,710.46 received on account of this service, leaving a surplus of receipts over expenditure of \$3,210.46.

The amount of receipts paid in to the Receiver-General on account of this fund as shown in the public accounts does not agree with the amount actually paid in to the Collectors of Customs, to whom the dues are payable, as some of these officers hold balances over from the close of the fiscal year until the commencement of the next one. The amount of Steamboat Inspection dues held over at the close of last fiscal year was \$849.88.

The amount collected on account of this fund during last fiscal year in the Province of Manitoba was \$81, but no collections were made in British Columbia, as the Canadian Steamboat Inspection Act, which was extended to that Province last Session of Parliament, was not to take effect till the 1st January, 1873. Some inconvenience may be felt at first on account of the application of the Act to the river steamers and engineers of that Province, but after a period it is presumed there will be no difficulty or inconvenience to the trade in carrying out the provisions of an Act which has worked so well in Ontario, Quebec, New Brunswick and Nova Scotia, and which has tended so much to give security to the lives of the numerous persons who are constantly travelling in our Canadian steamers either as passengers or crews.

The receipts and expenditure on account of this service, including the receipts from fees for engineer's certificates for the last four fiscal years were as follows:—

	Receipts.	Expenditure.
For the fiscal year ended 30th June, 1869..	\$11,914 63	\$7,999 00
do do do 1870...	12,521 29	7,399 18
do do do 1871..	10,369 96	8,321 00
do do do 1872...	11,710 43	8,500 00
	<u>\$46,516 34</u>	<u>\$32,219 18</u>
Deduct Expenditure from Receipts, ...	32,219 18	
Balance, ...	\$14,297 16]	

From this statement it will be seen that in four years there was a clear surplus of \$14,297.16, on account of this fund, which reverted to the Consolidated Revenue of Canada.

During the calendar year ended 31st December, 1872, the Board issued 741 certificates to engineers and assistant engineers, of which 253 were for examinations and 488 were for renewals without examination.

The number of steamers inspected during the calendar year ended 31st December, 1872, in the West Ontario, Lake Huron and Lake Superior division by Messrs. Risley and Meneilley was 146; in 1871 it was 119, and in 1870 it was 102, shewing a great increase in this description of property in that district. In the East Ontario division, Mr. Joseph Taylor, the Inspector, examined and certified, in 1872, 77 steamers, in 1871 the number was 64, and 1870 it was 61. In Montreal, in 1872, the number was 60; in 1871, 84, and in 1870, 82; the inspector at Sorel having attended to the principal portion of the duties last year. In the Sorel and Three Rivers district, Mr. F. X. Bafort inspected 42 vessels in 1872, in 1871, 41, and in 1870, 41. In the Quebec district, Mr. Joseph Samson, inspected 75 vessels in 1872; in 1871, 65; and in 1870, 63. In the New Brunswick and Nova Scotia district, Mr. William M. Smith inspected 73 vessels in 1872; in 1871, 65; and in 1870, 54. The total number of vessels inspected during the calendar year 1872 was 473; in 1871, 438; in 1870, 403; and in 1869, 401. Of the number inspected in 1872, 254 were paddle steamers, and 219 screw steamers. Of the 473 steamers inspected in 1873, 230 were tug steamers, 192 passenger steamers and 51 freight steamers. During 1872, 71 new steamers, measuring 18,048 tons, gross measurement, were added to the list of steamers owned in the Dominion, and 18 steamers, measuring 4,583 tons, gross measurement, were lost or broken up during the same period. The average value of each of the new steamers added to the list during 1872 might be stated at the sum of \$20,000 each, including the boilers and engines, thus giving an aggregate value of \$1,420,000 for the new steamers which were added to the Dominion shipping during the year ended 31st December, 1872. There were no penalties collected on account of violation of the Steamboat Inspection Act during last year.

The Chairman of the Board reports that there were fourteen lives lost last year in connection with the steamboats of the Dominion. Eight of these were caused by the wreck of the propeller *Mary Ward* in a gale of wind off Collingwood, on which occasion eight of the passengers left the steamer in a small boat and were upset among the breakers and drowned. The wreck of the steamer had no connection with the safety of the engines or boilers. One of the hands of the screw steamer *Careilla*, on Lake Simcoe, fell overboard and was drowned. The engineer of the steamer *Francis Smith*, of Owen Sound, was accidentally killed in the crank-room by the movement of the engine while the vessel lay at the wharf. The steamer *Kinjston*, belonging to the Canadian Mail Navigation Company, took fire on the 11th June last, near Grenadier Island, about 18 miles above Brockville, and one lady who jumped overboard was drowned, owing it was supposed to having on a life-preserver improperly adjusted and fastened. A boy belonging to the same steamer was also drowned. The fire originated in one of the state-rooms, but the cause of it was never ascertained.

The steamer *St. Lawrence*, on her way from Montreal to Chambly, on the 20th November last, took fire, and proved a total loss. One of the crew was lost on this occasion.

The steamer *Phoenix*, on the 28th May last, while towing a raft down the River St. Lawrence, took fire, and was run ashore at Batiscan. The fire broke out in the lamp-room, and one life was lost on the occasion of the accident.

The steamer *Emperor*, on her passage from Portland, United States, to Yarmouth Nova Scotia, on the night of the 28th May last, ran ashore on Machias Island, but no lives were lost, the weather being calm at the time.

Two cases only of drunkenness among certificated engineers have been reported during last year, and the delinquents in both cases were deprived of their certificates.

SHIPPING MASTERS AND SHIPPING OF SEAMEN.

There are three ports in the Dominion at which there are duly appointed shipping masters, viz :—at Quebec, St. John and Halifax. At Quebec the shipping master is also chief of river police, and receives a salary of \$1,200 per annum, for the performance of the duties of both offices. At Halifax, a shipping master was appointed on the 7th October, 1872, by the Governor in Council, under the Act 35 Vic., cap. 42, passed at last session of Parliament. By this Act the shipping master is authorised to charge fifty cents for shipping and thirty cents for discharging each man, and out of his fees he must defray all his expenses, such as office rent, assistance, stationery, &c. Mr. J. D. Cummins, of Halifax, received the appointment, and there is no salary attached to the office, the shipping master having to depend on the fees of the office for his remuneration. At St. John the shipping master receives no salary, and also depends on the fees for his remuneration. He is authorised, by a law of New Brunswick, to charge fifty cents for shipping each man, and he reports that during the last fiscal year he shipped and discharged 3,962 men, realizing \$1,981, from which his expenses, \$1,258.97, had to be deducted, leaving him as the net proceeds of his office \$722 for the year. The number of seamen shipped and discharged during the previous fiscal year was 4,471, shewing a decrease of 509 men. He reports that wages ruled high during last year, the run home having averaged \$60.50, against \$55 for 1870-71, and \$45 for the year 1869-70. Monthly wages have also increased to an average of \$25.25.

At Quebec the number of desertions during the last fiscal year was 1,564, and the number of seamen shipped was 2,127. Of this number, however, there were 433 seamen shipped on board new vessels and vessels registered in Quebec, and also for substitutes of engaged men who did not pay the legal fees of one dollar per man, leaving the number of men shipped who paid fees as 1,694, the amount realized from which, at \$1 each is \$1,694.

The number of seamen discharged was 612, and the amount of fees received on this account	\$298 31
Fees received for certificates	172 00

2,164 31

From which deduct the usual disbursements of the office .. 124 90

Leaves a balance of .. 2,039 41

which was deposited to the credit of the Receiver General, and carried to the Consolidated Revenue of Canada.

At all the other sea-going ports in the Dominion, the chief officers of customs act as shipping masters under the Imperial Act, so far as relates to British or British Colonial vessels registered out of Canada.

As stated in my last annual report, I have delayed recommending legislation on this subject, with the view of rendering the laws uniform throughout the Maritime Provinces of the Dominion, as it was generally understood that the British Government was about to introduce their comprehensive Bill, known as the Merchant Shipping Code, into Parliament, which would regulate the shipping and discharging of seamen, and it was of much importance that the legislation of Canada on this subject should be in harmony with that of the United Kingdom ; but there appears to be little or no prospect of their proposed code becoming law during the ensuing session. I intend, therefore, to recommend legislation on this subject at the ensuing session of Parliament in Canada, as it is of immediate importance not only that our laws relating to shipping should be made uniform throughout the Dominion, but that more stringent regulations should be made to prevent crimping at the large sea-ports, as it has been found most difficult under the present laws to check it, and keep it under control, more particularly at Quebec, where such large numbers of ships arrive at particular seasons of the year. In the report o

the Chief of River Police at Quebec, which will be found in Appendix No. 14, he has pointed out some of the difficulties which have to be provided for, as crimps at that port are in the habit of terrifying shipmasters, mates and watchmen, by pulling out their revolvers when stealing seamen, and they have not hesitated, when interfered with in carrying out their designs, even to commit murder.

SHIPPING.

The laws in force relating to the registry of shipping are not at present similar throughout the Dominion, those in force in Ontario being different from those in the other Provinces, and it is my intention to recommend at the ensuing session of Parliament, that they be made similar. I had deferred recommending action being taken in this matter for some time past, hoping that the Imperial Bill, which has been before the British Parliament during the last three years, would, before this time, have become law; and it would have been more convenient to have adopted such legislation in this country, as might be considered advisable, after the proposed legislation in the United Kingdom had been completed. But the delay which has attended the passage of the Imperial Bill has induced me to recommend that Canada legislate on the question without waiting any longer.

The total shipping registered in all the ports of the Dominion on the 1st July, 1867, when Confederation took effect, as shewn by the registry books, including as it does steamers, sailing vessels of all kinds, barges, wood boats and unrigged vessels, was 776,343 tons, while the tonnage owned in the Dominion, as made up by the officers of the census bureau from census returns taken in 1871 was 857,203 tons. The tonnage owned by Canadians is probably much larger than the figures here stated indicate, as under the British Registry Laws now in force, a British shipowner may select any British Port of Registry he wishes at which to register his vessel, and many of our Canadian-owned vessels and ocean steamers, wholly engaged in our trade, are registered at ports in the United Kingdom.

WRECKS.

The number of wrecks which have occurred on the shores of Canada, and to Canadian vessels abroad during the year 1872 has been very large, more particularly during the latter part of the year, when the gales on the Atlantic have been unusually severe.

The loss of life and property among vessels carrying cargoes from the St. Lawrence to the United Kingdom has been very great during the latter part of the year, and the suffering endured by a large portion of the crews of these shipwrecked vessels has been a subject of much regret, and appears to demand some remedy at the hands of the Government. No less than six steam vessels laden with grain, which sailed from Montreal during the fall months of the past year, have been lost, and a large number of their crews have been lost with them. These vessels, with many other screw steamers engaged in the grain trade of the St. Lawrence, were not originally built for Atlantic voyages, but, as I am informed, were intended originally for the coal trade of the United Kingdom, the Baltic and the Mediterranean trades; and in ordinary moderate summer weather were suitable enough for the Atlantic trade, but for such terrific gales as were experienced in the Atlantic during last fall, they were found to be quite unequal when too deeply laden with grain. The law which requires vessels laden with grain in bulk at Montreal and Quebec to be inspected by the Port Warden, only inflicts a penalty of \$40 for sailing without his certificate, and in the case of these vessels the penalties were paid and the vessels sailed without his certificate heavily laden with grain, and a portion of the crews paid the further penalty of their lives, and the owners and underwriters also incurred the loss of their property. It is my intention to recommend at the next session of Parliament, that the law in this matter be so amended that grain-laden vessels in the St. Lawrence be not allowed to clear at the Custom House until they have received a proper certificate

as to their seaworthiness from the Port Warden, and to increase the penalty for sailing without such certificate.

In the case of timber laden vessels carrying deck-loads from Canada to Europe during the fall of 1872, there has also been great loss of life and property, and it is my intention to recommend that at the ensuing session of Parliament some provision be made to prevent timber-laden vessels from carrying between the 1st October and the 15th of March excessive deck loads from Canada to Europe, which experience has shown to be attended with great danger both to life and property. It has been argued on the part of some shipowners that this is a question which should be left entirely between the shipowner, the owner of the cargo, and the underwriters; but in this view I cannot agree, as in my opinion there is a heavy responsibility resting on the Government in this matter, and that it is their duty to see that the lives of the crews are sufficiently protected, for it is generally acknowledged all over the world that a sailor, though indispensable to trade and commerce, is generally a helpless creature in the matter of self-protection, and that it is the duty of the State to watch over and protect his interests, and as far as possible prevent him from being imposed on, or placed in unnecessary danger. I am of opinion that some provision should be made to prevent vessels engaged in the timber trade of North America, from carrying square timber of any kind on deck during the winter months, and only a limited quantity of deals or other sawn timber on deck, say to the extent of three feet in height. In the event of a vessel thus moderately laden getting into difficulty by stress of weather or otherwise, there would be no difficulty in her getting clear of her deck load, without the danger of it breaking loose and destroying her rigging, which has not been an uncommon occurrence with vessels heavily laden with square timber or large rough spars.

My attention has also been called, by a despatch from the British Government to the Canadian Government, to the great losses which have taken place among vessels carrying heavy deck loads of wood goods from ports in British North America, more particularly St. John, New Brunswick, to Cuba, and suggesting that some steps should be taken to prevent the continuance of a system which, to say the least, has not only involved considerable loss of property, but has also endangered the lives of the crews engaged in the trade. I am of opinion that some protection should be given to the crews of vessels engaged in this trade in the winter months, as it cannot be otherwise than dangerous to such crews to navigate vessels laden with deck-loads six or seven feet high, and covered with ice, out of the Bay of Fundy during the months of December, January and February, when the days are short and the nights long and dark, and the cold sometimes so intense that it is impossible for men to go aloft without incurring much suffering and exposure. I am of opinion that deck cargo should not be taken in such vessels to a greater height than the main rail in the case of vessels with single decks, and in the case of vessels with spar decks no deck cargo should be allowed in the winter months.

In Appendices Nos. 28 and 29 will be found lists of the wrecks which have been recorded in this Department as having occurred either on our sea or lake coasts, as also to Canadian vessels in foreign waters. These lists, however, do not comprise *all* the disasters which have happened to Canadian vessels abroad, as no information has reached this Department relative to many such vessels which are missing, and which have in all probability foundered at sea. In the case of such vessels, the Department does not insert them in the wreck register until a sufficient time has elapsed to render their loss a certainty. The number of casualties to sea-going vessels during 1872, as appears by the wreck returns alluded to was 221, of which 95 were ships and barques, 40 were brigs and brigantines, 76 were schooners and 10 were steamers; and the probable loss may be estimated at about the sum of \$2,083,974. The number of casualties to Lake and Inland vessels during last season, so far as is known to the Department, was 69, of which 21 were steamers, 36 were schooners, 6 were brigantines and barquentines, and 6 barges, and the estimated loss about \$423,364. The number of lives lost, as appears by the Returns was 237, but there is no doubt it was much larger than this.

 REWARDS FOR SAVING LIFE.

On my recommendation, the Canadian Government has assumed, since Confederation took place, the responsibility of awarding testimonials to persons who have risked their lives or performed services of gallantry in rescuing the crews of vessels belonging to Canada while placed in perilous positions either on the high seas or on the the coasts of Canada, or other countries. Formerly this noble duty was assumed by Great Britain on behalf, not only of her own vessels, but of those of her colonies also; but when the Provinces became united in 1867 as Canada, the time appeared to have arrived when she should no longer allow the Imperial Government to discharge duties and responsibilities which properly belonged to herself, and the Canadian Government readily and willingly decided, in all well authenticated cases in which bravery or gallantry was displayed by persons who had saved the lives of Canadians at sea or from wrecks on our own shores, that they would be ready to mark the appreciation of such services by the presentation of some testimonial or reward suitable to the merits of the occasion. In some cases where assistance has been rendered and kind treatment shewn, but where no personal risk or danger has been incurred, the usual allowance for the maintenance of those on board the rescuing vessels is tendered, and letters of thanks of the Government of Canada are sent to the masters of such vessels. A statement of such services as have been brought under the notice of the Canadian Government during 1872 will be found in Appendix No. 33 of this Report, in which statement will also be found a notice of all the testimonials which have been bestowed by this Government since it assumed this duty, and the amount of pecuniary rewards granted in certain cases where such rewards might prove more acceptable than testimonials.

The amount expended during last fiscal year for this branch of the public service, including \$792 for the purchase of two life-boats and appurtenances, was \$2,284.32, and for enquiring into wrecks \$874, making a total of \$3,158.32, while the amount voted by Parliament for these services for that period was \$4,600.00, leaving an unexpended balance of \$1,441.68, which reverted to the treasury.

In Appendix No. 34 will be found a list of persons belonging to the Dominion of Canada to whom testimonials have been awarded by the British and United States Governments, through the Canadian Government, for gallant and humane services rendered by them in saving life from British and United States shipwrecked vessels between the years 1869 and the 31st December, 1872.

MONTREAL HARBOUR COMMISSIONERS.

In Appendix No. 25 of this Report will be found a very interesting account of the proceedings of the Harbour Commissioners of Montreal, and of their Engineer, for the year ended 31st December, 1872, and also a report of the Harbour Master of that Port for the same period.

The total revenue of the Commissioners for the period mentioned was \$225,717.50, being an increase over the previous year of \$32,025.91. Their revenues are derived from harbour dues on vessels, and wharfage dues on goods. Their total expenditure was \$264,897.34, of which \$67,557.87 was for interest on debentures, \$12,774.63 for salaries and office expenses, and \$184,564.84 for repairs, dredging and new works in the harbour. The report of the engineer will fully explain the nature of these works and the necessity for them. It is proposed by the Commissioners still further to increase the harbour and wharf accommodation of that port in order to meet the growing demands of its rapidly increasing trade, and it is probable that additional legislation will be required to enable the Commissioners to borrow more money and issue debentures for the purpose of carrying out these improvements, and extending the harbour to Long Point, about four miles below its present limits.

The Harbour Master of Montreal is appointed by, and is under the control of, the Harbour Commissioners, and his report on the state of the harbour during the past season will

also be found in the documents attached to the report of the Harbour Commissioners. From this document it will be seen that the requirements of the harbour are much too limited for the great increase which has taken place in the business of that port, and he gives some valuable statistics shewing the number of steamers which have visited the port, the number of their voyages and other information relating to the tonnage frequenting that harbour. The gentlemen representing the commercial interests of Montreal are very desirous to improve and deepen the channel between Quebec and that port, and it is proposed to obtain legislation to enable the Government to raise money by way of loan (probably \$1,500,000) to carry out this work, and it is probable that it might be entrusted to the Harbour Commissioners to perform it under the direction of the Department of Public Works.

QUEBEC HARBOUR COMMISSIONERS.

The Report of the Harbour Commissioners of Quebec will be found in Appendix No. 24. The revenues of this body are derived principally from tonnage dues paid on vessels arriving in the harbour of Quebec, which at the rate of five cents per ton, amounted last year to the sum of \$28,284.25. The receipts from their properties amount to \$19,927.46 ; from sale of old materials \$61.50 ; from premiums on debentures redeemed \$6,635 ; and from preferential debentures sold \$40,000 ; making the total receipts during the year 1872, \$94,908.31.

The total expenditure was \$80,675.76, of which \$2,309.03 was for salaries and expenses of management ; \$1,191.05 for insurance, assessments, &c. ; \$23,175.08 for interest and coupons ; \$32,000 for bills paid ; \$19,000 for harbour debentures redeemed, leaving a balance on hand of \$14,232.45.

The total value of the assets of the Commissioners, including their wharves, break-water, grain warehouse, and other properties on the 30th April 1872 was \$703,647 ; and the amount of their liabilities, including their Harbour debentures, preferential bonds, coupons due and unclaimed, &c., on the same day, was \$713,577.50.

The revenues of the Harbour Commissioners of Quebec have proved altogether inadequate for the purpose of carrying on improvements in the harbour, after paying the working expenses and interest on bonds, etc., and it is now proposed to enlarge the Harbour Commission, and infuse new and popular elements into it, and to give the Commissioners power to borrow additional capital for the purpose of making the necessary improvements in the harbour, and at the same time authorize them to levy harbour dues on goods exported and imported, in addition to the tonnage dues levied on shipping ; somewhat similar to the system in operation at the Harbour of Montreal.

It is probable that a Bill providing for the carrying out of these arrangements will be submitted to the Legislature at its next session, and in the event of its becoming law, I have no doubt that the trade of the port of Quebec will be much benefitted and increased by the additional facilities and wharf accommodation which it is purposed to provide at that port.

SUBSIDIES TO STEAMERS.

The subsidies to steamers paid by the Government of Canada for carrying the mails are disbursed by the Post Office Department, but in some few cases where the subsidies are paid for the accommodation of the travelling public, and for the encouragement of steamers to keep up regular lines of communication for passenger and freight traffic on routes where such traffic is not sufficiently extensive to maintain good safe boats, the subsidies are paid through this Department, as such services are not considered mail services, and the Post Office Department only assumes the payment of subsidies for mail services and not for traffic purposes. The route between Quebec, Father Point, Gaspé, Percé, Bay Chaleur, Miramichi, Shediac, Charlottetown, Prince Edward Island and Pictou has been hitherto considered by the Government of Canada to be one that it is desirable to assist and stimulate by Government aid until the Intercolonial Railway is com-

pleted (which will soon be done) as the population on this route has not hitherto been sufficiently large to induce private enterprise to maintain it with good substantial sea-going boats without some Government assistance, while it has also been considered most important in the interest of Confederation that regular and safe communication should be maintained during the summer months between the three maritime Provinces of the Dominion, with the view of developing in the meantime the trade relations between its different sections until our great railway system is completed which will connect the western portion of Ontario with the sea ports on the Atlantic coast. The amount paid by the Government of Canada to this Company is \$750 for each round trip of their boats from Quebec to Pictou and back, touching at Father Point, Gaspé, Percé, Miramichi and Shediac. Once a fortnight, and sometimes once a week, one of their boats runs up the Bay Chaleur to Dalhousie touching at Paspébiac, and for this side service a small sum ranging from \$50 to \$100 is paid, in addition to the amount above named for the voyage from Quebec to Pictou and back. A statement shewing the number of trips made by each of the boats during last season, with the time of starting and arriving, etc., will be found in Appendix No. 32, from which it will be seen that the first boat started from Quebec on the 29th April last, and the last boat arrived back at Quebec on the 27th of November. The boats usually leave Quebec on Tuesday afternoons at four o'clock, and generally arrive at Pictou on Saturday afternoons or Sunday mornings, leaving Pictou on Tuesday mornings at seven o'clock and arriving at Quebec on Saturday forenoons.

The amount paid by the Government of Canada for the performance of the service alluded to, under their contract during the season of 1872, was \$23,600. The amount voted by Parliament, on the estimates of this Department, as a subsidy for the purpose of keeping up steam communication on this route, and the development of the trade in that section of the country, irrespective of the Post Office service, was \$15,000, which sum was paid through this Department on proof being adduced that the service had been satisfactorily performed. The balance of the amount was paid by the Post Office Department, as their contribution to the boats for carrying the mails. The total amount paid by Government for this service during the season of 1871 was \$23,900; for the season of 1870, it was \$23,850; for 1869, \$23,900, and for 1868, \$16,500.

A contract was made by the Nova Scotia Government in February, 1864, with the Prince Edward Island Steam Navigation Company, by which that company was to be paid the sum of \$1,600, Nova Scotia currency, for running their steamers between Charlottetown and Pictou twice a week and carrying the mails and passengers between these places. The contract was to run for ten years, and will consequently expire in 1874. The amount payable under this contract was assumed by the Dominion Government, and has been paid since the date of Confederation through this Department, as it was to be considered more as a subsidy for developing trade than for carrying the mails. The Prince Edward Island Government gave a similar subsidy. The amount paid by this Department for this service for the fiscal year ended 30th June, 1872, was \$1,557.34.

THE FISHERIES SERVICE.

CONDITION OF FISHERIES.

The fisheries for the past season have yielded above an average return in value, though of some kinds of fish the quantities caught show a slight decrease compared with those of the previous year. This is the case where regular fishings have been affected by unfavorable conditions of weather. The lateness of Spring and the prevalence of storms operated seriously against fishing pursuits throughout the earlier part of the season. But the superior quality and increasing numbers of several of the best varieties of merchantable fish have somewhat compensated in the aggregate for such casualties.

The estuary, river and inland fisheries, and such of the sea-coast fisheries as are connected with them, continue to improve under the present protective system. Their improving yield but partially indicates the whole improvement. Other evidences more directly prove that, in both the salt and fresh-water fishings of the country, we are gaining very rapidly a point of productiveness when the stock of fish will be so great as to afford remunerative employment to double the number of craft and men now engaged in fishing. There are also evidences of better and more economical modes of catching, and more profitable means of disposing of the richer kinds of fish produced and caught in our waters. Suffice it to adduce examples from the salmon and white-fish fisheries in the Eastern and Western portions of the Dominion. It was formerly the practice to catch many more of the former in fresh than in brackish water, and to continue their capture later into the season when the streams had lost their cool and invigorating temperature. It was also customary to cure nearly all of the catch, thereby increasing their cost to producer and customer, and wasting a large percentage of weight and flavor. They were seldom obtainable before autumn, and then only as salted food. Few were procurable for summer use as a fresh and delicate relief from the meats and cured fish of which so much of our winter sustenance consists. These fish are now disposed of otherwise: they are either freshly canned, marketed whole in ice or snow, or frozen immediately by an artificial process of freezing, and reach our own and the markets of the neighboring States at an early date and greatly superior in quantity and quality. They are also procurable fresh throughout the whole year. The importance of this change is apparent from the fact of thus saving the cost and waste of curing. About 400,000 fresh salmon are now caught in these provinces, representing a gross amount of eight millions of pounds of wholesome and delicious food, the bulk of which enters into consumption as fresh fish which formerly reached the markets as cured food. Besides economising to the extent of nearly thirty-four per cent. of the gross weight, there is thus a further saving on the expense of preparation and marketing, while the actual value is enhanced to the producer, and an abundant, early and continuous supply of fresh salmon is available to consumers at moderate prices. White fish are also sold fresh from the nets instead of being cured and barreled. They are therefore in every respect more valuable to the men who catch them, the traders who market them, and the public who ultimately buy and eat them.

FISHERY PRODUCTS.

The following comparative statement exhibits the relative increase in the value of the produce of the fisheries for the past and two preceding years:—

STATEMENT shewing the yield and value of the Canadian Fisheries in the Provinces named, during the years 1870, 1871 and 1872.

PROVINCE.	KINDS OF FISH.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Remarks.
NOVA SCOTIA.	Codfish.....	389,809 qtls.	1,490,188	447,165 qtls.	1,900,461	525,249 qtls.	2,292,308	
	Mackerel.....	83,354 brls.	1,023,048	228,152 brls.	2,736,874	115,853 brls.	1,367,894	
	Herring.....	125,863 brls.	503,432	292,875 brls.	811,700	170,077 brls.	682,623	
	Salmon.....	6,730 brls.	125,205	6,432 brls.	125,687	6,677 brls.	141,078	
	Other Fish & Fish Oils.....		668,531		495,894		1,332,927	
			\$4,019,424		\$5,570,739		\$8,016,845	
QUEBEC.	Codfish.....	155,874 qtls.	467,622	217,773 qtls.	623,319	217,741 qtls.	911,845	
	Mackerel.....	3,677 brls.	36,770	7,638 brls.	76,380	1,739 brls.	17,690	
	Herring.....	26,419 brls.	79,258	27,539 brls.	82,617	29,089 brls.	87,296	
	Salmon.....	5,810 brls.	93,440	3,728 brls.	59,618	4,070 brls.	64,600	
	Other Fish & Fish Oils.....		484,461		230,618		238,748	
			\$1,161,551		\$1,692,612		\$1,320,189	
NEW BRUNSWICK.	Codfish.....	21,167 qtls.	86,243	9,292 qtls.	43,298	81,439 qtls.	346,065	
	Mackerel.....	3,282 brls.	39,384	4,036 brls.	66,603	2,217 brls.	32,728	
	Herring.....	105,733 brls.	422,936	150,871 brls.	603,484	124,157 brls.	496,628	
	Salmon.....	7,496 brls.	176,945	8,042 brls.	201,062	8,060 brls.	297,767	
	Other Fish & Fish Oils.....		405,917		674,278		882,301	
			\$1,131,435		\$1,578,095		\$1,965,459	
ONTARIO.	Whitefish.....	14,974 brls.	119,792	13,317 brls.	106,536	17,450 brls.	143,220	
	Trout.....	10,396 brls.	83,168	7,477 brls.	89,816	7,584 brls.	60,688	
	Herring.....	6,550 brls.	39,391	5,875 brls.	33,250	6,974 brls.	41,844	
	Other Fish.....	7,516 brls.	22,722	1,891 brls.	11,575	4,463 brls.	21,581	
			\$254,982		\$213,177		\$267,633	
Total Values.....			\$6,577,392		\$9,455,223		\$9,570,116	

NOTE:—Salmon, Mackerel and Herring are uniformly reduced to barrels from the numbering by pieces, cans, boxes, &c.

TONNAGE AND BOATS ENGAGED AND MEN EMPLOYED IN CANADIAN FISHERIES.

About one thousand decked vessels, and seventeen thousand open boats are now engaged in fishing within these Provinces, employing some forty-two thousand men. The estimated number of persons supported almost entirely by this industry in the various fishing communities exceeds two hundred thousand souls.

VALUE OF FISH PRODUCTS.

The latest official returns (excluding the Provinces of British Columbia and Manitoba) place the actual value of last year's yield at \$9,570,116; this worth having increased upwards of thirty-three per cent in two years.

AREA OF CANADIAN^WWATERS.

It is computed by the Census Branch of the Department of Agriculture that the total acreage of the inland waters of Ontario amounts to 3,881,729 acres; those of Quebec, 3,728,176 acres; those of New Brunswick, 98,870 acres; and those of Nova Scotia 525,600 acres. These returns compute the lineal extent of sea coast, not calculating indentations of the land, at 1,164 statute miles for Quebec; at 545 statute miles for New Brunswick; and at 1,170 statute miles for Nova Scotia: total 2,879 statute miles. Also "The extent of the marine league of maritime jurisdiction and the exclusive right "to sea fishing grounds which follows it, covers (save what may be conceded by treaties) "consequently an area of about 9,947 square statute miles or 25,761 square kilometres." The aggregate area of the Canadian portion of those large fresh water seas called Lake Ontario, Erie, Huron, and Superior, divided by the boundary line between Canada and the United States, and of that immense sheet of salt water surrounded by British territory forming the mouth of the River St. Lawrence and its Gulf, as also of the Baie des Chaleurs and the Bay of Fundy, is given in detail as follows:—

"The area of the Canadian part (Ontario) of the frontier waters of the St. Lawrence and its great Lakes may be estimated at 27,094 square statute miles, or 70,171 square kilometres.

"The area of the mouth of the St. Lawrence, from Point des Monts to Anticosti, "is about equal to 9201 square miles, or 23,830 square kilometres.

"The total area of the Gulf, washing the shores of the Provinces of Quebec, New Brunswick, Nova Scotia, New Foundland, Prince Edward Island, and the small French "colony of Miquelon, may be computed at 78,300 square miles, or 202,789 square kilometres.

"The area of the Baie des Chaleurs, between the Provinces of Quebec and New Brunswick, is equal to 1,923 square statute miles, or 4,980 kilometres.

"The area of the Bay of Fundy, between the Provinces of Nova Scotia and New Brunswick, is equal to 5,403 square miles, or 13,994 square kilometres."

STATISTICAL STATEMENT FURNISHED BY THE DEPARTMENT OF AGRICULTURE.

Reference was made in last year's report to difficulties and necessary incompleteness attending the compilation annually of statistics connected with the fishing business of Canada. It was also explained that as the Census Returns taken in 1870, then in course of preparation, would embrace full details of maritime produce, no special efforts had been made through the Fishery Officers to procure complete local returns for official use. The Minister of Agriculture has obligingly furnished this Department with an accurate statement concerning the fishing industry of the four Provinces of the Dominion, Ontario, Quebec, New Brunswick and Nova Scotia, in advance of its publication by his own De-

partment. This statement has been most carefully prepared, and proves the more interesting from the fact that it confirms in a great measure the practical accuracy of information on which the immense value of Canadian fisheries has been generally estimated. In the annual reports of this Department, I have preferred, for obvious reasons, rather to understate the money value of the fisheries of Canada, than to incur the slightest risk of exaggeration. Consequently on revising the subordinate statements embodied in the annual reports, and checking them by the actual enumeration made through the Census staff, I am now enabled, in placing before the public a complete resumé of this important industry, to congratulate the country on its fishery products being actually greater than they were hitherto represented to be. In justice to the Fishery Officers through whom the detailed returns of each season's fishing were procured, it should be observed that, considering the small number of persons employed at merely nominal salaries and (with few exceptions) at a very moderate expense for disbursements, whose districts extend over such a vast extent of coast, more or less inaccessible at all times, the general accuracy of the materials procured under directions from this Department is certainly creditable to their industry and intelligence.

The actual value of the produce of the fisheries in 1870 for purposes of trade, as reckoned in the revised table on a foregoing page is \$6,577,392; while the Census returns state it at \$7,225,494. This difference of \$648,102 is caused chiefly by reckoning the products of fishing in localities from which this Department had in the same year received no detailed reports, and others in which the returns were incomplete, or the prices applied were those received by the fishermen on the spot, instead of the average value in the nearest home markets, also the fish of all kinds entering into local consumption had not been accounted.

The following figures are from the Census schedules for 1870, above quoted:

FISHERIES SCHEDULES from the Census Returns for

	Vessels & Boats employed Fishing.				No. of shoremen or STEWARDS.	No. of fath. of Nets & Seines of all sorts.	No. of Weir or Fathines Fisheries.	Quintals of Cod.	Quintals of Haddock, Hake, and Pollock.	Barrels of Sounds and Tongues.	Barrels of Herring.
	Vessels.		Boats.								
	Number.	Men.	Number.	Men.							
Ontario.....	20	73	1,154	2,307	.....	129,958	14	.....	.....	.....	9,814
Quebec.....	110	801	4,271	6,929	3,179	347,694	1369	264,742	1,881	350	90,370
New Brunswick.	139	537	3,003	4,776	726	425,109	169	37,581	17,290	40	181,792
Nova Scotia....	710	5,469	7,941	11,855	778	975,060	771	382,460	100,071	939	135,207
	979	6,880	16,369	25,867	4,683	1,877,821	2,323	684,783	119,242	1,329	417,183
	Total values, \$										
Ontario.....	368,933							\$	\$	\$	\$
Quebec.....	2,024,167							926,597	5,643	2,450	34,349
New Brunswick.	1,226,182							131,533	51,870	280	316,295
Nova Scotia....	3,606,212							1,338,610	300,213	6,573	473,224
	7,225,494							2,396,740	337,726	9,303	1460140

1870; supplied by the Department of Agriculture.

Barrels of Caspereaux.	Barrels of Mackerel.	Barrels of Sardines.	Barrels of Halibut.	Barrels of Salmon.	Barrels of Shad.	Barrels of Eels.	Barrels of White Fish.	Barrels of Trout.	Other Fishes per barrel.	Barrels of cured Roes.	Barrels of Oysters.	Gallons of medicinal Cod Liver Oil.	Gallons of all other Fish Oil.
225	5,837	6,457	961	5,349	1,665	5,816	1,501	1,724	58,179	949	869	308,830	3,364
18,534	2,417	10	133	6,340	3,532	488	57	280	9,070	13,243	205	75,826	
10,364	69,733	25	2,542	4,218	7,184	1,262	14	372	1,368	1,932	1,237	1,405	287,925
29,123	78,007	6,492	3,636	15,996	12,381	7,693	23,017	19,640	81,153	2,934	14,500	2,479	675,945
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
675	87,855	32,285	5,766	133,725	13,320	93,056	11,257	12,930	174,537	6,168	869	200,739	2,187
55,602	36,255	50	798	158,500	28,256	7,808	427	2,100	27,210	39,729	205	49,287	
31,092	1,045,995	125	15,252	105,450	57,472	20,192	105	2,790	4,104	12,688	3,771	1,405	187,151
87,369	1,170,105	32,460	21,816	399,900	99,048	123,088	172,626	147,300	243,459	19,071	43,500	2,479	439,364

COLLECTIONS.

During the fiscal year ended 30th June, 1872, a total sum of \$10,498 was collected under the following heads :—

<i>Ontario.</i>	
Rents, license fees, fines and confiscations.....	\$4,818 57
<i>Quebec.</i>	
Rents, license fees, fines and forfeitures.....	4,569 69
<i>Nova Scotia.</i>	
Taxes on nets, fines and forfeitures.....	166 85
<i>New Brunswick.</i>	
Rents, taxes on nets, fines and forfeitures.....	942 89
Total.....	\$10,498 00

EXPENDITURE.

The total expenditure for the same period amounts to \$43,683.80, and is subdivided as follows :—

<i>Ontario.</i>	
Fishery Overseers' salaries and disbursements, fish-breeding, &c.....	\$8,364 29
<i>Quebec.</i>	
Fishery Overseers' salaries and disbursements, expenses of <i>La Canadienne</i> , fish-breeding, &c....	19,537 68
<i>New Brunswick.</i>	
Fishery Overseers' salaries and disbursements, &c., &c.	7,072 32
<i>Nova Scotia.</i>	
Fishery Overseers' salaries and disbursements, &c., &c.	8,709 51
Total.....	\$43,683 80

PROTECTION OF FISHERIES AGAINST FOREIGNERS.

Owing to the United States Congress not having passed the necessary measures to give effect to those Articles of the Treaty of Washington which affect the Fisheries, this Department was required to maintain in active service the Marine Police Force engaged for three years past in guarding the inshore fishing grounds of Canada. The vessels employed as cruisers are the following :—

The steamer *Lady Head*, Capt. P. A. Scott, R.N., in general command.
 The schooner *Peter Mitchell*, D. M. Browne, Esq., R.N., Commander.
 The schooner *J. W. Dunscombe*, J. A. Tory, Esq., Commander.
 The schooner *S. G. Marshall*, J. A. Nickerson, Esq., Commander.
 The schooner *New England*, W. T. Frost, Esq., Commander.
 The schooner *Katie*, G. Matson, Esq., Commander.
 The schooner *Stella Maris*, L. H. Lachance, Esq., Commander.
 The schooner *La Canadienne*, N. Lavoie, Esq., Commander, was occasionally employed in cruising.

The respective reports of these officers are printed as Appendices.

INSTRUCTIONS.

Their operations were governed by the same directions as last year. The principal reason for so few American fishermen having remained on the coast last season is the difficulty of fishing close inshore when liable to detection and seizure.

SEIZURES.

Only two United States fishing vessels, found committing trespass, were captured; they were the *Enola C*, and *James Bliss*, both of Gloucester, Mass. The first was detected trawling for halibut, at Trinity Bay, near the Point des Monts Lighthouse, on the north shore of the river St. Lawrence. The second was found fishing with trawl-lines, also for halibut, near the East Point Lighthouse, on the island of Anticosti. Both captures were brought to Quebec, and labelled in the Vice Admiralty Court. They were subsequently released under bonds, which sureties have been since discharged by the Government.

There are circumstances connected with these two cases, as also with the case of the American fishing schooner, *Samuel Gilbert*, which was seized near Seven Islands Bay, in the preceding season, to which it is desirable that the attention of the Government should be directed. I refer to the description of fishing in which these and many other United States vessels now engage on the coasts of Canada: it is the halibut fishery. This species of fish-food has become very valuable, and is therefore much sought after. Halibut is found to be exceedingly plentiful in Canadian waters, and to lie close inshore. Being a gregarious fish, it frequents feeding and breeding places in enormous quantities. The fishing lasts throughout the spring, summer, and fall months; and is inexpensive and highly remunerative. As halibut are caught by means of set-lines (called trawls), it is necessary to fish for them quite near the shores and in sheltered localities. Suitable places abound along the shores of the Gulf and Lower St. Lawrence, and around the Islands. Whenever United States citizens shall be admitted to our inshore limits, as provided for by the Treaty of Washington, this fishery will form a novel and most valuable portion of the privileges which they may acquire. A question must sooner or later arise affecting the customary mode of fishing for halibut. There are grave differences of opinion among experienced fishermen and naturalists respecting the present mode of fishing for members of the flat-fish and cod-fish families. Many persons contend that it injures the fishery; while others deny it. Doubtless, it is an easy and profitable mode of fishing, and though, perhaps, generally, it may not be improvident, it is, in certain situations, a most destructive method. In any case, it is already questioned with sufficient reason to demand early enquiry. It seems advisable, therefore, before adopting it as a legitimate practice, in view of the great increase of fishing for halibut which will probably take place as soon as the fishery articles of the Treaty of Washington are in full operation, that the possible restrictions which careful observation may suggest, should be anticipated by all parties concerned.

COST OF MARINE POLICE.

A sum of \$65,000 was appropriated by Parliament for this service, of which grant, a sum of \$40,472 was expended. This amount includes \$3,000, paid for the purchase and outfit of the condemned American fishing schooner, *J. H. Nickerson*, since employed in the Lighthouse Service; but it does not include any proportion of the regular expense of maintaining the steamer *Lady Head*, the whole of which is reckoned against the Parliamentary appropriation for Dominion Steamers.

INSPECTION OF FISH AND FISH-OILS.

In deference to a very general demand on behalf of the public, the Government proposes to include in the general consolidation of Inspection Laws, a scheme to insure the proper curing and packing of fish and fish-oils. It is intended to submit to Parliament, at the approaching session, an Inspection Bill, amending and consolidating the existing Provincial Acts, respecting the inspection of certain staple articles of Canadian produce; also extending the measure to the whole Dominion of Canada, and including in its provisions the important produce of the fisheries. This Act will embody the system contemplated in my remarks on the subject in the last Annual Report. Under the existing laws for the official inspection of fish and fish oil, nothing whatever has been done. The frauds practised in curing and packing fish for so many years past still continue, and no steps are taken to enhance the value of the produce of our fisheries in foreign and home markets. Complaints are rife of the vexatious impositions and losses to which purchasers of pickled fish are now exposed, and the consequent depreciation of the character and price of this commodity, especially throughout the agricultural districts and amongst the population of the interior. The Department has received from various quarters urgent representations on this subject. After so long and fair a trial of the voluntary system, and its complete failure, it appears very desirable to try the experiment of a compulsory system.

PRESERVATION OF FISH IN INLAND WATERS.

The protection of fish in the numerous lakes, rivers and streams which exist throughout the interior, has received attention. It was found on close enquiry that many of these waters were fast becoming depopulated, through excessive and unseasonable fishing. The increasing demand and high prices for fresh fish, created by American dealers, have induced many persons of late to fish more extensively than usual for such of the lacustrine and other species as abound in the inland waters of Canada. The remoteness of many favorite fishing localities from settlements, and the difficulty of maintaining actual supervision over them, have admitted of strangers and their confederates carrying on illicit operations with impunity. It has only been by arresting the fruits of their labors on the way to market, that any effectual check could be applied. This has been accomplished by placing Fishery Officers at proper places to intercept the illegal carriage and exportation of fish during the prohibited seasons. It will be hereafter dangerous and unprofitable for aliens and their native associates to continue these unlawful operations.

OBSTRUCTION AND POLLUTION OF STREAMS.

In the reports of this Department for the last year and the preceding year, attention was drawn to the alarming increase of injuries which are inflicted on the navigation and fisheries of many rivers and streams in the Dominion, by reckless disposal of the refuse from manufactories. The Government having appointed a Commission to investigate the subject, I await the result of pending inquiries before offering further suggestions. In the meanwhile, the Fishery Officers are directed to interfere only in urgent cases, where

a continuance of the pernicious practice of discharging deleterious refuse and mill-offals into public waters directly and seriously affects the fisheries.

IMPROVEMENT OF RIVERS.

Finding that the natural breeding capacities of certain salmon rivers could be greatly enlarged by rendering passable obstructive falls, which hindered the ascent of fish to the sources of these streams, I have caused examinations to be made on the St. John, Mingan, Natashquan, Dartmouth, and St. Margaret rivers, with a view to removing portions of these falls, or else constructing artificial fish-ways, adapted to the ready passage of salmon. Should the state of the water admit of performing necessary work in course of the ensuing season, it is confidently hoped that the present capabilities of the fine streams above named, for the reproduction of salmon, will be largely increased. In Nova Scotia, the Sisabou River, Digby Co., will be improved by removing a natural obstruction which exists there. An accumulation of logs and driftwood in Petite River, Lunenburg Co., will be removed; and another from Grand River, in Richmond Co. In New Brunswick, the St. Croix River, Charlotte Co., will be made passable for salmon and alewives, by blasting at Salmon Falls, near Mill-Village.

RESTORATION OF OYSTER FISHERY AND FORMATION OF OYSTER BEDS.

Oysters, to the value of \$96,000 are yearly imported into Canada from the United States; the bulk of which importation is in kegs and cans, probably mere "culls," or a small proportion of prime oysters mixed with others of an inferior quality. Only about \$43,000 worth are annually produced in the provinces of Nova Scotia and New Brunswick, nine-tenths of which are taken in the last named province. These are disposed of in the shell at home markets. About \$140,000 worth of oysters are thus shown to be consumed in Canada; but less than one-third of which supply is from native sources. There is no sufficient reason why the demand for oysters throughout the Dominion of Canada should not be supplied by our own people. When the Intercolonial Railway is completed, the inland markets, now supplied by American dealers, will be easily accessible. The domestic consumption would no doubt be increased if the article was produced and supplied within our own resources. The oyster grounds on the Canadian coast are very extensive, and are situated in localities admirably adapted for the growth and nutrition of oysters. We have already remnants of a stock which, for delicacy of flavor and nutritive properties, is not excelled by the choicest species grown and caught on the United States coasts. Along the whole tidal shores of New Brunswick oysters of the finest description might be raised in enormous quantities, if the natural facilities for their culture were enhanced by artificial aids. When it is considered that the mother oyster yields nearly 3,000,000 of spat at every spawning, some slight conception may be formed of the probable return from any careful system of oyster cultivation.

The American oyster trade exceeds in value that of all the other U. S. fisheries put together. An almost incredible amount of capital is embarked in it. In Baltimore, the amount is computed at sixteen millions of dollars. The entire industry produces annually about \$23,000,000; nearly three-fold the valued produce of the oyster fisheries of Great Britain. This high state of productiveness has been attained only by economic use of existing oyster fields, accompanied by careful and intelligent cultivation, after the area of oyster shores had been apportioned among private individuals and regularly farmed. Similar results might be attained by like means, adapted to the oyster fishery on the shores of the Maritime Provinces. At present the condition of this fishery is such as to create well-founded alarm for its continued existence as a branch of our fishing industry. The Inspector of Fisheries for Nova Scotia and New Brunswick (Mr. Venning), has repeatedly urged on my notice the necessity of doing something to save the oyster fishery from this threatened extinction; and suggests its restoration, by means of resting the

existing beds, and planting new ones. This officer informs me that the close-time prescribed by the Fishery Laws has been strictly enforced; but he adds, that indiscriminate raking of the same (almost exhausted) beds, during the open season, year after year, not only renders increase impossible, but steadily exhausts the parent stock. Many places are not now worth the trouble of raking, where oysters were formerly abundant. Mr. Venning considers that leasing old grounds for restocking, or creating new beds, by encouraging the planting of seed under leaseholds, from which the enterprise might reimburse the funds and experience applied, would soonest insure the recovery of this fishery. Certain limits at Malagash Bay, in Colchester Co., Nova Scotia, were thus placed under lease to the Hon. A. Macfarlane, for the cultivation of oysters. This gentleman's success affords very strong practical commendation of such a plan. He has already planted new beds, where the young oysters are growing rapidly and in great abundance. Applications have been made from various quarters to secure the same facilities, and many persons are prepared either to lease and restore worn out beds, or to establish new ones, under the protection and permanence which leases can afford. Hitherto, the improvident customs of the inhabitants, their utter want of enterprise, joined to an unreasoning fear of any seeming "monopoly," which might deprive them of an ancient liberty, have operated against the adoption of what is probably the most effective method of reviving our oyster fishery. The next best step which suggests itself to experienced and observing men is, the setting apart of all oyster beds for a limited period, and entire prohibition of oyster fishing during a term of years. This plan it is proposed to adopt, limiting the time of reservation to three years. Whether or not it may be advisable also to supplement this measure by promoting the cultivation of oysters in other barren grounds suited to their reproduction and development, requires some further consideration. It would doubtless prove an excellent auxiliary to the restoration of this valuable fishery, and the promotion of an extensive oyster trade in the future; but it seems somewhat doubtful if capitalists or skilled parties would be willing to await the natural returns without some current compensation for the necessary investment of skill, capital and labor.

INVESTIGATIONS REGARDING THE SUBSISTENCE OF DEEP SEA FISHES.

The scientific researches begun last season, in connection with the Natural History Society of Montreal, were continued this year by Mr. J. F. Whiteaves, the Society's Curator, whose report is contained in the Appendices.

This Department was enabled to accommodate Mr. Whiteaves' dredging operations only in a casual manner, through the agency of one of the Marine Police cruisers, when not necessarily cruising for the detection of foreign trespassers. It happened, unfortunately, that the only one of these schooners available in the early part of the season having captured two foreign fishing vessels, and being obliged to convey them into port, was thus interrupted for several weeks. The accommodation extended to this useful and interesting service throughout the season, was very limited. There can be no doubt of the great utility of practical investigations of this nature by scientific men. The habits and wants of the immense varieties of food-fishes inhabiting our coasts are of the greatest possible interest and value, as auxiliary to the preservation and development of our vast marine resources. It is not, happily for us, as it is with American neighbors, a question of restoring exhausted fishings. A timely and judicious system of regulating both the sea coast and inland fisheries of Canada has arrested their general decline at critical periods; and within a few years we have enjoyed the satisfaction of knowing that the most precious kinds of edible fishes have multiplied so rapidly and extensively in Canadian waters, as to place them beyond the ordinary dangers of further decline. It is nevertheless desirable, in view of an increasing population and growing demand for every description of food in this country, and keeping also in view the facilities for transport which will soon be afforded by railway communication through Canadian territory, between the interior and the sea-board, that we should now consider in what manner the

present highly productive powers of our fishing grounds can be still further improved. I confidently recommend the pursuance of these inquiries on a more appropriate scale; and would suggest the employment of at least two vessels during next season, one of which should operate in the Bay of Fundy, and another in the River and Gulf of St. Lawrence. The earnest interest felt in this matter by Professor Dawson, and his high professional character, afford ample guaranty for the selection of competent persons to conduct these operations. The choice of Mr. Whiteaves for the initial services, and the ready appreciation of our immediate requirements, and industrious endeavors to make the best of insufficient means, already manifested by that gentleman, testify to the judicious application of whatever assistance the Government feels justified in extending to researches of this nature, under the auspices of the Natural History Society of Montreal.

Application was made last summer by the United States "Commission on Fish and Fisheries," through Prof. Spencer F. Baird, of Washington, for specimens of the fresh water fishes of Canada; and also for co-operation in the work of investigating the condition and habits of the various species of salt-water fishes inhabiting the Bay of Fundy. Congress had last year voted ample means to carry on these enquiries along the coasts of Maine and Massachusetts, and the U. S. Government seconded the matter by placing steam vessels at the service of the Commission. A further sum of \$15,000 was provided towards restocking rivers and lakes with useful food fishes. The Department felt sincere pleasure in acceding, as far as possible, to such request; but, having no public vessel available at the moment, it was impossible to co-operate with Prof. Baird and his colleagues to the extent desired.

These researches have, for their main object, the attainment of such practical knowledge of the existence and necessities of the fish which inhabit neighboring waters as shall conduce to their immediate preservation and ultimate increase; and are, on that account, of incidental interest to Canada. They are, in effect, of international concern. I beg, therefore, to suggest to the Government the desirability of uniting with Prof. Baird in whatever of these investigations more immediately affect fishes which frequent contiguous waters, and are, in some sense, common property. If the extension of the proposed inquiries through Prof. Dawson could be made to take a co-operative shape of this kind, it would, perhaps, simplify the matter, and ensure uniformity of results.

ARTIFICIAL FISH CULTURE.

After distributing a large part of last year's hatch of salmon fry in different streams, and turning considerable numbers into Lake Ontario, from the Government Fish-breeding Establishment at Newcastle, Ontario, about two millions of fish eggs, from salmon, salmon-trout, white-fish, and brook-trout, were gathered during the autumn, and deposited in the hatching-troughs by Mr. Wilmot. At present, it is computed that salmon-fry to the number of 350,000, will be safely hatched out this spring; besides about three-quarters of a million of other fish. These will be distributed during the spring and summer months in various places, which have been selected as suitable for their reception.

Adult salmon which are undoubtedly the produce of Mr. Wilmot's operations in fish-culture, are now found in nearly all the streams between the Bay of Quinte and the mouth of the Niagara River. Many of these streams were last autumn literally crowded with breeding fish.

With some reluctance, allusion is made to the recurrence of depredations committed on the premises where this public enterprise is situated, indicating a spirit of local jealousy and lawlessness which reflects discreditably on the entire neighborhood. I allude to the repeated poaching raids made at Wilmot's and Grafton creeks. The guilty parties, caught in the very act, after having been convicted and fined—the principal of them a second or third time, for similar offences—appealed to the Quarter Sessions, and were acquitted by sympathising juries, in despite of clearly proven facts, and the most wanton and malicious nature of the offence. There may be no legal remedy for such failures of justice, but an appeal to respectable neighbors, who can have no possible

sympathy with the deeds of men fired by malice and drink, ought certainly to produce a beneficial effect. Should depredations continue, it may become necessary to provide, by special legislation, for the protection of a property and undertaking which are supported entirely by the funds of the public, and for the public benefit.

An arrangement was made last year with the several lessees of the salmon angling privilege on the Restigouche river and its feeders, by which the Department secures an annual contribution of \$1,600 towards maintaining an artificial fish-hatching establishment on that fine river. These lessees are—Sir Hugh Allan, C. J. Brydges, Sanford Fleming, and Geo. Stephen, Esquires. The importance of further increasing salmon in the Bay of Chaleurs, and the common character of the Restigouche river and its estuary, belonging to contiguous provinces, and traversed by the Intercolonial Railway, which will open new markets both eastward and westward of the Restigouche Valley, rendered it highly desirable to commence operations immediately. Mr. Wilmot was therefore directed to proceed there, and, after selecting a site, to contract for the grounds and buildings required, and to instruct the district fishery officer (Mr. John Mowat) in everything that was requisite to prepare and conduct the establishment. The premises are now ready to receive a large stock of ova, which will be placed there during next season.

Another project which the Department has in view is the preparation of a salmon and trout-hatching establishment at Tadoussac. The place has been carefully examined, and found admirably adapted for this purpose. Experiments made at the Moisie River have thus far proved unsuccessful, simply because of the extreme difficulty of obtaining fecundated ova; and it seems desirable to make additional efforts nearer home, where the requisite facilities are at hand. It is also desirable to commence similar operations at Gaspé Basin.

I intend also to suggest the artificial production of bait for the deep-sea fisheries, on some part of the coast of Nova Scotia, and to devote attention especially to the growth of menhaden, and other bait fishes of that class. The private establishments at the town of Galt, Waterloo Co.; at the village of Hillsborough; and at Erin village, in the county of Wellington, Ontario, for raising speckled trout, are reported to be progressing favorably.

A proposal has been made to the Department to cultivate white fish, bass, pickerel, and maskinonge, at Point Pelee Islands, in Lake Erie, at the private expense of certain Canadian capitalists, who will undertake the work on condition of being allowed reasonable privileges connected with the undertaking, by means of which to render the investment profitable to themselves, as well as to the public. Negotiations are not yet completed.

It becomes every year more apparent that the example already set by the Government encourages individuals to apply and extend the opportunities which our inland seas and northern lakes and rivers offer them for the successful cultivation of fishes. The country may fairly look forward to an era plentiful in fish-food, which, while it combines with newly developed industries to increase labor, will lessen the other necessities of life, and make living in Canada cheaper even than it is at present.

THE CLOSE SEASONS.

The only fishery in Ontario now requiring protection during the spawning season is that of the salmon or lake trout; and for this the regulations do not provide. No doubt, it has long needed protection—and now more urgently than ever before. Difficulties have always existed in the way of making any general prohibition applicable to different localities. But the Department is at last prepared to recommend that a moderate close season should be fixed under regulation by the Governor General in Council.

The bass fishery, in the Maritime Provinces, requires similar protection. This fish is becoming more valuable, and it is worth while to foster and protect it. Hitherto, it has been killed when spawning, and large numbers of young fish have been destroyed. A regulation will be submitted on this subject.

The lobster fishery in Nova Scotia and New Brunswick also demands notice; but, as the adoption of a general rule would cause great confusion, and some discrepancies just now, the Inspector will be instructed to procure the data required for prohibited seasons in the several districts or counties where lobsters at present abound.

INTERNATIONAL LEGISLATION.

The rapid diminution of marketable fishes in those waters which border on the United States and Canada, particularly between Lakes Erie and Huron, claims early attention. Whilst within Canadian jurisdiction certain established rules control the dates and methods of fishing, there are practically no restrictions in the adjoining limits; consequently much of the good which our fishery laws design to accomplish is frustrated, to the mutual damage of fishing pursuits in these waters. If it were possible to induce the State Governments of Michigan, Ohio, New York, and Vermont, to unite in ascertaining how far and in what manner the prevalent causes of deterioration may be affected by judicious legislation, and promptly enforce some moderate restrictions, I should endeavor to assimilate as closely as practicable the necessary existing regulations enforced by Canadian officials.

There is every reason to believe that the effect would prove mutually beneficial, and we might confidently expect a marked improvement in the almost international fisheries of bordering waters.

ERECTION OF FISH-WAYS.

The statements of the Fishery Officers in Nova Scotia and New Brunswick afford gratifying proofs of the utility of these structures. They report that in many places fish have returned to streams, and become again plentiful, where for years past the waters had been almost entirely deserted.

There have been over 100 fish-passes constructed in Nova Scotia and New Brunswick since the Dominion Fishery Laws were enforced, at a cost chiefly to the mill-owners of about \$8,200. In Ontario and Quebec above eighty were built, at an aggregate expense of \$13,184.

When the material increase of fishes resulting from thus admitting them to interior waters adapted to the reproduction of their species is taken into account, it will be perceived that the public derives most valuable advantages from this comparatively insignificant outlay.

RESTOCKING SALMON STREAMS.

Besides placing salmon fry in various tributaries of the great lakes which in former years have produced salmon more or less abundantly, the Department has tried the experiment of transplanting salmon from Lake Ontario to the Ottawa River. The place chosen for planting the fry was Salmon River, about forty-five miles below the city of Ottawa. It had been previously examined by my directions; and, being found favorable, was prepared for the reception of young salmon. About the middle of last June, Messrs. Whitcher and Wilnot successfully conveyed to that stream and planted several thousands of salmon fry in a vigorous condition, and they were afterwards observed to be advancing rapidly towards the parr state.

Ten or twelve thousand more fry, from the Government Establishment at Newcastle, will be added to their number next spring. Should any of these fish, on arriving at maturity, be found at Salmon River, I propose to improve the experiment by liberally stocking other tributaries of the Ottawa River with salmon.

BRITISH COLUMBIA.

The Department is fortunately enabled to refer to an authentic description of the fisheries of British Columbia in an able report, of recent date, by the Hon. H. L.

Langevin, C.B., Minister of Public Works, concerning the resources of that important province. A chapter from this report, relating to fisheries, which contains much valuable information, is reproduced as an appendix in the present report, together with an interesting extract from a Government Prize Essay, by Mr. Anderson, of Victoria, British Columbia.

THE NORTH-WEST TERRITORIES.

Although the fisheries of the provinces of British Columbia and Manitoba have not yet been made tributary to general commerce, they are of incalculable benefit to the inhabitants; and, being of unlimited extent, they must, in course of time, prove a source of great industrial wealth to the Dominion. The only trustworthy particulars extant respecting the fish resources of the North-west Territories, to which the Government might refer, were contained in an admirable work by His Lordship Bishop Taché, of Manitoba, copious extracts from which are appended to this report. It was thought advisable to procure further information regarding them; and Mr. Urquhart, the clerk of the North West Council at Winnipeg, was requested to make some inquiries and embody the results in an informal report to this Department, which is also published among the Appendices.

EMPLOYÉS OF THE DEPARTMENT.

A reference to the Addenda herewith accompanying will show that the number of persons employed on the outside service of this Department last year, including the officers and crews of the Marine Police Vessels, was 1,035, while for the previous year it was 972. These numbers do not include the staff of the Department at Ottawa, and the amount stated on page 5 hercof, as the expenditure of the Department does not include the salaries and other expenses of the staff, but only the expenditure for outside services.

I have the honour to be,

Your Excellency's most obedient servant,

P. MITCHELL,

Minister of Marine and Fisheries.

OTTAWA, 1st January, 1873.

ADDENDA.

The Employés in the Outside Service of the Department of Marine and Fisheries
numbered as follows, 31st December, 1872;—

Superintendent, Foremen, and Light Keepers in Ontario and above Montreal	75
Officers of Trinity House, Montreal, receiving pay, and Light Keepers..	42
Captain and Crew of <i>Richelieu</i>	6
Officers of Trinity House, Quebec	8
Officers of agency at Quebec, and Lighthouse Keepers, &c., below Quebec	92
Agent, Clerk, Superintendent, Messenger, Light Keepers, Fog Whistle Keepers, &c., in New Brunswick	45
Agent, Clerk, Superintendent, Messenger, Light Keepers, Fog Whistles Keepers, and employés of Humane Establishment, in Nova Scotia..	105
Officers and Crews of <i>Napoleon III</i> , <i>Lady Head</i> , <i>Druid</i> and <i>Sir James Douglas</i>	90
Inspectors of Steamboat, and Clerk to Chairman of Board.	7
Harbour and River Police, Montreal and Quebec.....	57
Employés in Marine Hospital, in New Brunswick	16
Shipping Masters and their Deputies at Quebec, St. John and Halifax ..	5
Officers of Observatories and Meteorological Observers, &c., receiving pay	19
Examiners of Masters and Mates, and Clerk to Chairman of Board	9
Ontario.—Fishery Overseers	24
“ Guardians	27
Quebec.—Cominander of <i>La Canadienne</i> and Crew	24
“ Fishery Overseers.....	24
“ Guardians	27
Nova Scotia.—Fishery Officer	1
“ Overseers.....	27
“ Wardens	132
New Brunswick.—Inspector for Nova Scotia and New Brunswick.....	1
“ Clerk	1
“ Fishery Overseers	33
“ Wardens	36
Marine Police and Crews employed on the six vessels forming the Marine Police	102
	1,035

APPENDICES

OF THE

MARINE BRANCH

OF THE

Department of Marine and Fisheries.

APPENDIX No. I.

STATEMENT of Expenditure on account of Lighthouses above Montreal, for the Fiscal Year ended 30th June, 1872.

TO WHOM PAID.	SERVICE.	\$ cts.		
		\$	cts.	\$ cts.
Isaac Hope.....	Salary as Superintendent of Lighthouses.....	1,200	00	
J. Norton.....	do Keeper, Machine Pier Light No. 1.....	401	00	
W. Shannon.....	do do Grosse Point Light.....	435	00	
E. S. Johnson.....	do do Cherry Island do.....	447	00	
Thos. Hill.....	do do Lancaster Pier do.....	393	00	
C. Cook.....	do do Gananoque Narrows Light.....	400	00	
J. Buck.....	do do Spectacle Shoals do.....	560	00	
N. Orr.....	do do Snake Island do.....	435	00	
F. Swetman.....	do do False Ducks do.....	435	00	
W. A. Falen.....	do do Point Peter do.....	435	00	
W. Bentley.....	do do Scotch Bonnet do.....	435	00	
W. J. Swetman.....	do do Presque Isle do.....	325	00	
G. Duran.....	do do Gibraltar Point do.....	435	00	
G. Thompson.....	do do Burlington Beach do.....	300	00	
D. Fortier.....	do do Port Colborne do.....	400	00	
J. Burgess.....	do do Mohawk Island do.....	435	00	
F. Scholfield.....	do do Long Point do.....	350	00	
H. H. Woodward.....	do do Port Burwell do.....	320	00	
A. Sutherland.....	do do Point Pelee Reef do.....	260	00	
P. McIntyre.....	do do do do.....	500	00	
J. Edwards.....	do do Pelee Island do.....	435	00	
J. Cunningham.....	do do Bois Blanc do.....	435	00	
A. Hackett.....	do do River Thames do.....	435	00	
T. Carter.....	do do Goderich do.....	335	00	
H. Fidler.....	do do Point Clarke do.....	435	00	
J. Young.....	do do Chantry Island do.....	435	00	
D. McG. Lambert.....	do do Griffith do.....	435	00	
V. C. Hill.....	do do do do.....	435	00	
G. Collins.....	do do Nottawasaga do.....	435	00	

ABOVE MONTREAL.

Salaries and Allowances.

J. Hoar	do	Christian do	435 00
J. Pringle	do	Point Pleasant	300 00
P. Pringle	do	Killarney do	500 00
A. Hynes	do	St. Ignace do	300 00
D. McKenzie	do	Little Current do	300 00
C. Patton	do	Clapperton Island	350 00
W. Sheppard	do	Sulphur do	350 00
John Egan	do	Lonely do	350 00
O. Madore	do	Lachine Pier Light Ship No. 2	300 00
O. Veaudry	do	do do No. 3	300 00
J. Malache	do	Beauharnois Light	225 00
G. Shannon	do	Grosse Pointe do	175 00
A. McDonald	do	McKies Point do	175 00
G. H. Johnson	do	Cherry Island do	300 00
R. Elliott	do	Cole Shoal do	250 00
A. Root	do	Greenfield Island Light	250 00
J. Wallace	do	L'Anse do	250 00
J. Morvin	do	Burnt do	250 00
R. Gillespie	do	Wolf do	250 00
G. B. Simpson	do	Range Light and Buoy	300 00
R. K. Chisholm	do	Oakville Pier Light	200 00
H. Morgan	do	Port Dover do	200 00
C. Ead	do	Port Stanley do	175 00
R. A. Lambert	do	Chantry Island do	175 00
C. Collins	do	Nottawasaga Island Light	175 00
M. Leclerc	do	Point Clair Light Ship No. 2	300 00
A. LaBerge	do	Green Shoal Light	250 00
J. Mason	do	Telegraph Island Light	200 00
J. C. Darks	do	Muskoka do	200 00
Wm. McGowan	do	Perry Sound Light	300 00
A. Mongeon	do	Wade Shoal do	100 00
J. Dunlop	do	Nine-Mile Point Light	217 50
G. Rodlick	do	Gull Island do	375 00
R. Rodlick	do	do do	125 00
do	do	do do	131 25
D. McReath	do	Asst.-Keeper do	500 20
Wm. McBeath	do	9 months' and 5 days' salary as Keeper, Isle of Coques Light	181 25
A. Glode	do	3 months' do	207 60
J. Reches	do	10 months' and 23 days' do	209 67
J. Reches	do	8 do do	150 00
S. Campbell	do	6 months' do	50 00
J. Davis	do	3 months' and 11 days' do	83 87
A. Dunlop	do	3 months' do	87 50
J. Reegan	do	10 days' do	2 71
E. R. Frier	do	L'Original do	10 67
J. Woodall	do	Golden Landing do	30 00
Wm. Woodall	do	Port Dalhousie do	75 00
O. Delaire	do	do do	34 00
J. Hoyle	do	Salary, 28th April to 24th June, McTavish Point Light	50 00
	do	Arrears as Superintendent of Lights	50 00

Carried forward

23,878 25

APPENDIX No. 1.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
Darius Smith.....	<i>Brought forward</i>.....	.....	23,878 25	.....
F. Lowe	<i>Maintenance, Repairs, &c.</i>			
E. D. David	Wages of workmen, and materials for repairs, removing and replacing light ships, &c., &c.....	6,785 14		
J. B. Spence	Charter of steamer delivering supplies.....	1,600 00		
J. A. Cameron	Allowance for purchasing supplies.....	100 00		
E. Chanteloup.....	Rebuilding lighthouse and pier, Port Maitland.....	5,194 50		
C. Garth & Co.....	Building Lancaster Pier and Breakwater.....	2,292 20		
Philadelphia Railway-Lamp Co.	Revolving apparatus, lanterns, lamps, &c.....	3,872 82		
B. & S. H. Thompson.....	Plate glass, ventilators, &c.....	665 90		
Union Glass Co.	Lamps, chimneys, &c.....	243 34		
Harbier & Fenestre.....	Port lights.....	519 94		
D. Smith	Lamps, chimneys, &c.....	316 96		
Isaac Hope	Travelling and incidental expenses.....	724 52		
do	do	275 72		
do	do	1,004 54		
do	Wages of workmen, materials for repairs, &c.....	500 00		
do	Allowance for keeping Colchester Reef Light Ship, for season of 1871.....	500 00		
do	do	23 60		
do	do	16 65		
do	do	6 00		
do	do	329 00		
do	do	8 25		
do	do	100 00		
do	do	37 50		
do	do	35 75		
do	do	885 00		
do	do	100 50		
do	do	450 00		
do	do	120 00		
do	do	56 00		
do	do	2,027 00		
do	do	70 62		
do	do	971 79		
do	do	92 40		

Frithingham & Workman	Brushes, varnish, &c.	309 70
L. J. Belliveau & Co.	Paint, putty, rope, &c.	586 28
J. Mathewson & Co.	Soap	97 82
Morland & Watson	Hardware	79 98
J. Oulets	do	43 40
Lymana, Claire & Co.	do	263 29
D. Smith	Boats, lumber, lime, &c.	258 58
D. Morrice	Oil	24 92
H. H. Woodward	do	73 73
Downer Kersene Co.	do	61 18
St. L. & O. R. Co.	Freight on sundries	50 87
Canadian Express Co.	do	15 85
C. DeLamondiere	do	12 25
Montreal & Ottawa Forwarding Co.	do	12 00
J. G. Moylan	Advertising in "Canadian Freeman"	36 96
A. Wilson & Son	do "Ottawa Daily News"	14 20
C. Cliff	Advertising	14 00
Siddons & Dawson	do	6 00
J. R. Robertson	Advertising in "Daily Telegraph"	27 00
H. Lemons	do "Courier"	12 00
T. & R. White	do "Montreal Gazette"	18 54
Lawson, McCulloch & Co.	do "Kingston Daily News"	11 77
W. Bonn	do "Hamilton Spectator"	12 60
Mitchell & Carrier	do "Bruce Herald"	15 00
J. A. McVicar	do "Ottawa Free Press"	40 00
J. Beatty	do "Sarnia Weekly Canadian"	12 48
J. B. Cook	do "Leader"	4 00
Donaghy & Co.	do "Toronto Express"	73 00
N.	do "Toronto Star"	3 00
Duverney & Co.	do "La Minerve"	48 80
J. Lovell	do "Montreal Daily News"	27 40
E. J. B. Pense	do "British Whig"	16 16
E. L. Desbarats	do "Illustrated News," &c.	60 00
F. Scholfield	Allowance for rent at Port Maitland	25 00
J. C. Burke	Sundry supplies, Fox Island	53 50
P. R. Prieur	Boat-hire at Coteau Landing	6 67
L. H. Mison	Wages of Light Keeper, Coteau Landing, from 14th October to 3rd December, 1871	37 50
L. Hudgins	Wages as Light Keeper, at Salmon Point, from 20th October to 31st December, 1871	58 33
O. Delaire	Wages as Light Keeper, at McTavish Point, from 28th November to 31st December, 1871	30 00
R. Campbell	Wages as Light Keeper, at L'Original, from 9th October to 31st December, 1871	22 20
Wm. McBeath	Wages as Light Keeper, at Isle of Corea, from	51 05
A. Dunlop	Wages from 28th February to 31st March, 1872	30 85
Wm. Smith	Travelling expenses, inspecting Lancaster Breakwater preparatory to settling contract	13 00
Carried forward		23,878 25

APPENDIX No. 1.—*Concluded.*

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>	.....	23,878 25	.....
	<i>Maintenance, Repairs, &c.—Concluded.</i>			
W. Ross	Horse-hire in connection with Lancaster Breakwater.....	5 00		
C. Ead	Allowance for services at Port Stanley	50 00		
J. Tomlinson	Travelling expenses and disbursements as General Superintendent in connection with lights above Montreal.....	332 99		
L. H. Mason	Iron ladder, Coleson Landing.....	5 00		
Receiver General	Refund of unexpended balance.....	20 84		
H. Morgan & Co.	Lamp towelling, &c.....	473 57		
	Total.....		33,751 75	
				57,630 00

DEPARTMENT OF MARINE AND FISHERIES.
OTTAWA, 2nd January, 1872.

W.M. SMITH,
Deputy of the Minister of Marine and Fisheries.

APPENDIX No. 2.

REPORT OF TRINITY HOUSE, MONTREAL, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1872.

TRINITY HOUSE,
MONTREAL, 9th Dec. 1872.

SIR,—In compliance with the request contained in your letter of 21st November last, requesting me to forward a report of the operations of the Trinity House for the financial year ended 30th June last, in order that it may be laid before Parliament at its next session, I have the honor to submit the following for the information of the Minister of Marine and Fisheries, adopting the course which in previous reports has met your approval :—

I will proceed to detail the different operations under their several headings.

Floating Lights.

These three important light vessels in Lake St. Peter are, since the new decking last year, in excellent order. They were placed in position later than usual, owing to the lateness of opening of navigation, and they were kept in their place much later than usual. As you are aware, many sea-going vessels remained last fall till the very latest moment, and were unable, owing to the severity of the weather, to proceed, being compelled to winter at Sorel and other places. Carrying out the principle that it is imperative on the Trinity House not to remove a floating light or buoy while there is a single sea-going vessel to go down, our floating lights were, last year, in very great danger, and the Board is under great obligations to I. B. Lamere, Esq., of the Richelieu Company, for his kindness in risking one of their boats to save the lights and the lives of the crews, which, through the energy and perseverance of Captain Duval, of the steamer *Three Rivers*, was, with great difficulty, but successfully accomplished.

Buoys.

The same principle carried out with respect to the buoys as mentioned under the heading of "Floating Lights," rendered it impossible for the Trinity House to remove a single buoy, and I regret to say that with the exception of some in the Lake, every buoy, with its appurtenances of chain and anchor, was lost, entailing a very large expenditure, which the amount voted will barely cover. As this was the first time all the buoys remained in the river, the Board could not know from experience how many would be lost. Satisfied, however, that many, if not all, would be lost, they caused preparations during the winter to be made to meet the emergency, and I am happy to say that on the opening of navigation last spring, although every buoy was gone, (except a very few in the Lake), a sufficient number was ready to ensure the safety of the navigation. The large iron buoys which it was found necessary to lay down to mark the permanent buoying of Lake St. Peter, are gradually being replaced by a lighter and less expensive description, which appear to answer equally well. The new wooden buoys, one of which was, if you remember, tested in your presence at Sorel in 1871, has been a great success; as anticipated, they are not so liable to be carried away by rafts. Representation having been made as to the necessity of buoying the channel from the foot of the Lachine Rapids, owing to the increased number and size of the boats navigating that part of the

river, and the subject having been, by the Honorable the Minister of Marine, referred to this Board, and reported on favorably, the Board was authorized to place the necessary buoys and beacons, which was done. Under similar circumstances, eight buoys have been placed on the improved channel at Riviere des Prairies, which have been found very useful to the tugs frequenting that channel.

Lighthouses.

These, with the light vessels, were, as usual, visited by a committee of the Board on the 10th July, accompanied by yourself as far as Champlain, where the inclemency of the weather stopped the inspection.

Those below Champlain were, however, subsequently inspected by Captain Cotté and myself. They were all found in excellent order, the usual necessary repairs having been previously made on the opening of navigation. I feel assured you will cheerfully bear testimony to the efficient manner in which they are kept, and to the high character of the men who keep them. The men are, with exception of the keepers of the Island Lights, *habitants*; i. e., proprietors of the land on which the lights are built. They are sober, honest and careful. During the seventeen years of my connection with this Department, no complaint against a light keeper has ever been made. Many have been over a quarter of a century in this employ, and the vacancies created by death have been generally filled by the sons who succeed as heirs to the land.

The lighthouse at Isle à la Pierre—originally built as a shore lighthouse at Nicolet, and found, owing to the improvements in the channel, unnecessary there, and removed to Isle à la Pierre—was found, as you are aware, totally unfitted for the continued residence of the light keeper. An addition has therefore been made at a cost of \$550.

A new lighthouse has been placed on Isle de Grace, where the steamer *Quebec* grounded some years since, at an expense of \$986.

The land was purchased from the Curé and Marguillies of the Church at Sorel for \$30, and with the approval of the Honorable the Minister of Marine and Fisheries, Edward Paul, a most respectable proprietor of land opposite, was appointed keeper.

The temporary lights erected at Lotbinière were found eminently useful, and a vote having been passed for the erection of permanent ones, they have since been erected.

Urgent representations having been made directly and through this corporation by the Board of Trade at St. John's and others interested, to the Honorable the Minister, for lights in the River Richelieu between St. John's and the boundary line, the matter was referred to this corporation for a report; a committee of the Board having carefully with yourself examined into the subject, found that for some years temporary small lights had been maintained at the expense of private individuals.

The enormous increase of the carrying trade, principally in lumber, from Ottawa, and the advantage of despatch in being able to navigate this tortuous channel at night were so evident, and the necessity for lights so imperative, that a report was made suggesting the erection of eight lights, and the having some small dredging done, which being approved by the Minister, was submitted to Parliament, and a vote of \$5,000 passed towards the carrying out of the work.

It being too late to carry out the construction of any one of the lights this season, an arrangement was made with Captain Jones to continue the temporary ones at an expense of \$325 for this season.

Pilots.

One branch pilot (Pierre Pagé) died during the year. He was on the retired list. Two have been branched, viz., Celestin Brunet and Louis Belisle.

A complaint having been made by me, as Registrar, against Edouard Naud for insobriety, he was suspended till the first of April next.

A complaint having been made by Archibald Thompson, captain of the steamship *France*, against P. Marcel Mathieu, for having stranded the vessel, an investigation was

made, at which both parties were present, represented by Counsel. After a careful enquiry, it was found that the accident was caused by the steering gear, which was new and did not work easily. The fact of the steering gear not working easily was proved to have been known to all concerned, and the pilot was known to have caused everything to be done while the vessel was in port which prudence, skill and caution could dictate to remedy the difficulty.

The Board was unanimously of opinion that no blame whatever was to be imputed to the pilot. Mathieu is one of the oldest and best pilots, and during my tenure of office, no complaint was ever brought against him previous to this one.

The Steamer "Richelieu."

As I had the honor of stating in my report last year, I feared this boat would hardly be made to serve another year, but that I was unable to give any reliable information on the subject, awaiting, as I was, the report of the Steamboat Inspector and two other competent persons. The Steamboat Inspector, X. Befort, Messrs. Lamère, Pontbriand and McCarthy, had the goodness to examine her, and they found that with extensive repairs she might be made to last twenty years.

The increased price of iron and labor will cause these repairs to be more expensive, but they will entail a large saving by obviating the necessity of a new boat.

GENERAL REMARKS.

A reference for a beach and deep water lot at St. John's, Province of Quebec, having been submitted to this Board by the Government at Quebec, in favor of the Champlain and St. Lawrence Railroad, was handed over to a committee, who proceeded to St. John's, and reported that the grant would offer no obstruction to navigation.

I regret to have to state that Mr. Joseph Mondor, who for nineteen years most efficiently performed the duties of acting agent of this Board at Sorel, to enforce our by-laws there, died in the month of September last, and Mr. G. H. Bramley has since, with the approval of the Honorable the Minister, continued to act in his stead.

Some obstruction to the navigation at Lachine having been reported to this Board, a committee proceeded to investigate the matter, and representations having been made to the parties infringing, the difficulty was remedied.

A complaint having been made by the Richelieu Company as to the damage incurred to their vessels from the non-carrying of lights by small craft navigating the river between Quebec and Montreal, the Board directed their Bailiff to visit all the small craft arriving in port, in order to see if the laws regulating the carrying of lights were complied with. The Bailiff was accompanied by the Assistant Wharfinger and (through the kindness of the Honorable Judge Coursol) by a river policeman. Many were found without these lights; but professing ignorance of the laws, and promising immediate compliance, no measures were taken to punish them. These visits were made frequently, and I am happy to say that, without an exception, every small craft coming to this port is now provided with the lights.

The *Richelieu* also, as I mentioned in my last report, cruised about for the same object.

I do not accompany this report with the special report of the annual visit to the lights. Every light was found in perfect order, and therefore there is nothing special to report, except, as before stated, with regard to that at Isle à la Pierre.

The amount voted for the year was.....	\$22,369
The expenditure	22,369

I pray you again to accept my most sincere thanks for the extreme courtesy you have had the kindness to extend to me in our official intercourse.

I have, &c.,

E. D. DAVID,

Registrar.

Wm. Smith, Esq., Deputy Minister
Marine and Fisheries, Ottawa.

APPENDIX 2.—STATEMENT of Expenditure by Trinity House, Montreal, for Fiscal Year, ended 30th June, 1872, and
Statement of Decayed Pilot Fund, for Year ended 31st December, 1872.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
E. D. David.....	Twelve months' salary as Registrar and Treasurer.....	1,325 00		
P. E. Côté.....	do do do Superintendent of Pilots.....	1,200 00		
L. Marchand.....	do do do Master.....	1,625 00		
D. Rooney.....	do do do Clerk.....	600 00		
M. Brennan.....	do do do Harbour Bailiff.....	400 00	4,150 00	
E. D. David.....	Sundry disbursements.....	135 17		
Harbour Commissioners.....	Rent of Office.....	300 00		
J. Parlow.....	Stationery.....	105 29		
Water Works Company.....	Water Tax.....	42 90		
T. Mussen.....	Carpets, &c.....	115 00		
Commercial Insurance Company.....	Insurance.....	6 25		
Widow J. Mondor.....	Nine months and eleven days' salary due the late Joseph Mondor, Acting Harbour Master at Sorel.....	224 17		
John Lovell.....	Printing, &c.....	37 87		
L. Perrault.....	do do.....	19 00		
T. Cuth.....	Services.....	1 50		
Harbour Commissioners.....	Proportion of heating building.....	60 00	1,057 15	
	Total.....			5,207 15

MAINTENANCE OF LIGHTS, &c., between Quebec and Montreal.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
E. D. David.....	Salaries of Light Keepers.....	3,717 09		
do.....	Wages and board of crew of Steamer <i>Richelieu</i>	2,168 00		
Gaulthurt & McPhee.....	Coal for Steamer <i>Richelieu</i>	1,377 87		
W. C. White.....	do.....	227 50		
Northern Transportation Company.....	Repairs to.....	40 00		
Pointbrand & Billows.....	do.....	213 82		
T. Coster.....	Gong for.....	9 80		
Ross Brothers.....	Ship chandlery.....	118 30		
N. Poulet.....	do.....	138 80		
R. Mitchell.....	Repairs to pumps.....	10 80		
P. DeBelleville.....	Firewood for.....	17 25		
Lyman, Clare & Co.....	Oil.....	39 08		
B. A. Insurance Company.....	Insurance on.....	67 50		
Commercial U. Insurance Company.....	do.....	75 50		
H. Morgan & Co.....	Dry goods for.....	68 65		
E. D. David.....	Petty disbursement.....	130 70		
Commercial U. Insurance Company.....	Insurance on Harbour Lights.....	11 00		
Grand Trunk Railway.....	Freights on oil.....	155 00		
F. A. Fitzgerald & Co.....	Balance of oil.....	221 80		
A. Poillane.....	Iron floats for Light Ships.....	295 00		
D. Giguere.....	Repairing slip at Lavaltrie.....	225 00		
J. Fairie.....	Wicks for circular burners.....	97 07		
E. Chanteloup.....	Lamps, &c.....	728 00		
A. Langlois.....	Carriage.....	17 00		
C. Garth & Co.....	Copper tubs for buoys.....	107 25		
L. Laroc.....	Painting Lighthouses.....	188 25		
Ross Brothers.....	Lighthouse supplies.....	161 07		
N. Poulet.....	do.....	22 22		
B. DeLisle.....	Placing buoy at Lachine.....	29 00		
J. Harvey.....	Storage of oil.....	13 16		
A. Monette.....	Locating buoys.....	14 00		
J. Sheridan.....	New light at Isle de Grace.....	986 20		
Rev. H. Miller.....	Site for.....	30 00		
A. Fortlance.....	Buoys, anchors, &c.....	700 09		
A. Mireux.....	Iron plates.....	12 00		
M. Paquin.....	Repairs at Point du Lac.....	27 45		
P. Vauelin.....	Boatmen for St. Lambert's Shoal.....	17 30		
A. Giguere.....	Repairs to dock at Isle Ste. Therese.....	217 00		
F. Lamoureux.....	Unloading of cargo.....	112 30		
J. B. & L. Ladouceur.....	Taking depth of water, Lake St. Francis.....	100 00		

J. Tellin.....	33 09
J. Triché.....	38 75
H. Richieu Company.....	314 56
Richieu.....	136 78
J. Fairie.....	20 00
J. Cotté.....	50 40
Capt. L. Jones.....	263 12
Locating sites of proposed lights, Richelieu River.....	122 95
Weights for new buoys.....	700 00
Services as architect.....	276 60
H. M. Perrault.....	27 60
A. Portelance.....	135 63
S. Reeves.....	40 00
Cellar for buoys.....	30 00
S. V. Blanchard.....	03 00
Cartage.....	175 50
Stone for Isle à la Pierre.....	10 80
Storage of Island Wharf Light.....	19 00
D. Giguère.....	30 00
Putting up Lavaltrie Lights.....	375 00
H. Brossard.....	194 33
Storing buoys.....	17 32
Cellar for buoys.....	88 65
Advertising.....	80 00
Stores.....	133 50
Taking down Isle aux Prunus Lights.....	23 03
J. B. C. Larose.....	24 00
Repairs at Isle aux Raisins.....	26 74
H. Brossard.....	58 00
Disbursements at Sorel.....	103 50
Services as notaries.....	48 50
Repairs at Sorel.....	159 80
Use of steamer for Committee, with reference to new lights in Richelieu River.....	35 45
G. H. Bromley.....	276 17
Gibb, Hunter & Doucet.....	71 75
E. Courchaneau.....	
Simmons & McNaughton.....	
N. Lacroix.....	
A. Beaudet.....	
J. Richette.....	
E. Courchaneau.....	
Bethune & Bethune.....	
J. Duval.....	
A. G. Nish.....	
G. Watt.....	
P. E. Collé.....	
E. D. David.....	
F. Picard.....	
Total.....	17,161 85

WM. SMITH,
Deputy of the Minister of Marine, &c.

DEPT. OF MARINE & FISHERIES,
1st Jan., 1873.

DECAYED PILOT FUND in Account with Treasurer of the Trinity House, Montreal.—Continued.

CR.

DR.

		\$	cts.
	<i>Brought forward</i>		
Nov. 4.	Widow J. Bouez, do	15	00
do 4.	C. & D. Savings Bank, rent of Deposit Box, No. 14, for year ending 1st October, 1873..	15	00
7.	Widow F. Hamelin, 3 months' pension, to 1st November.....	15	00
7.	Widow C. Hamlin, 3 months' pension, to 1st Nov.	15	00
7.	do D. Bouillie, do	15	00
7.	do S. Bellisle, do	15	00
7.	do N. Bouillie, do	15	00
7.	do A. Belcourt, do	15	00
7.	do J. Beaudry, do	12	00
7.	do J. Paquin, do	9	00
7.	do J. Paquet, do	15	00
7.	Joseph Mathieu, do	9	00
12.	Edward Bourdreau, do	30	00
15.	Widow A. Mathon, do	9	00
21.	Olivier Remond, balance to 1st November, and \$5 in advance, to 1st February.....	10	00
26.	François Dulbec, 3 months' pension, to 1st Nov.	15	00
31.	Cost of Collections.....	200	00
31.	D. A. Stoddard, \$900 Dominion Stock, \$972 00 @ 8% premium, 13 61		
	92 days' interest, @ 6% 4 50		
	Brokerage.....		
	Balance.....	990 11	
		644 53	
		3,072 64	
STATEMENT OF FUNDS.			
	Montreal City Bonds.....	\$1,000	00
	do Water Works Bonds.....	7,800	00
	do Harbour Bonds.....	3,200	00
	Government Debentures.....	4,800	00
	Dominion Stock.....	1,620	00
	Cash in Treasurer's hands.....	644	53
		19,064	53

E. D. DAVID, Registrar.

APPENDIX No. 3.

REPORT OF THE TRINITY HOUSE OF QUEBEC FOR THE FISCAL YEAR ENDED 30TH JUNE, 1872.

Meetings of the Board were held twice a week during the season of navigation, as required by law, and twenty sittings took place during the winter months.

Sundry references from the Government of the Province of Quebec, applications for beach and water lots on the river St. Lawrence, &c., were submitted to the Board and reported upon.

An enquiry was held by the Board regarding the complaint and statements made by the master of the ship *Constance*, through Mr. Henry Fry, against the corporation of Pilots, and reported upon to the Honorable the Minister of Marine and Fisheries.

JUDICIAL PROCEEDINGS.

Twenty-seven cases, prosecutions against Pilots and others for infringement of Pilot and Harbor Regulations, were brought before the Board and adjudged upon, wherein a number of witnesses were summoned and heard, and their depositions taken down in writing.

SALVAGE.

Nine cases of salvage were referred to the arbitration of the Board and awarded upon.

BY-LAW.

A by-law was passed by the Trinity House on the 23rd of February, 1872, and sanctioned by the Governor-General on the 27th of March following, imposing more stringent rules upon vessels lying at wharves or in tiers within the harbor of Quebec, in regard to the rigging in of their booms, yards, &c., &c.

This regulation was called for in consequence of the large class of vessels now navigating the St. Lawrence, and the few accidents met with by the shipping in the harbor during the season, notwithstanding the increased number of vessels accommodated, is a proof of its utility.

This by-law also makes it obligatory on steam and sailing vessels lying at wharves to be provided with proper gangways for the accommodation and security of passengers and others coming from or going on board.

A second by-law was also passed on the 3rd of May, 1872, and sanctioned on the 1st of June following, providing for the registration in the Trinity House of *batteaux* employed within the harbor of Quebec in the conveyance, for hire or otherwise, of deals, staves, ashes, flour, and other produce.

This regulation provides against the frequent losses and damages occurring from the carelessness and misconduct of *batteau* men, and its object is also to facilitate prosecutions against them.

NAVIGATION OF THE RIVER,

OBSTRUCTIONS IN THE HARBOR.

Complaints have in several instances been made of the obstructions within and outside the harbor, the existence of which have on different occasions been brought to the notice of the Government; they consist principally of the following, viz:—

NESTS OF ANCHORS.

There are five nests of anchors and chains in the harbor, which have almost every season been the cause of delays and accidents to the shipping; but the means of removing which have never been afforded to the Trinity House, Eleven ships, viz:—

The Brig *Henry Palmer*.
Barge *Drysdale*.
„ *Meteor*.
„ *Diodar*.
„ *Ann Fletcher*.
„ *St. Andrew*.
„ *Raguer*.
„ *Nariva*.
Ships *Alexander*.
„ *Marion*,

and another, name unknown, are reported by the Harbor Master to have lost anchors and chains on those nests of anchors during the present season. Some of these vessels being on their outward voyages experienced considerable delay in consequence.

WRECKS.

Besides the nests of anchors, there are in the river below Quebec several wrecks, which offer serious obstructions to the navigation, and render the moving of vessels dangerous. These are the

Preciosa, near the Pillars.
Annett, in the Traverse.
Medina, near Madame Island, &c.
Chryseis, at St. Jean Port Joli.

On the 12th of July last, the barque *Germania* struck upon the *Annett*, and was forced to return to Quebec to discharge her cargo, and to repair, at an expense of £900 sterling.

Again several vessels, the

Laurel.
Countess.
Underwriter.
Nelson, and
Sailor's Home,

have since the opening of the navigation dropped anchors and chains in different parts of the river below Quebec, which if not removed will tend to form new obstructions.

The St Lawrence being the highway to the great lakes and the west, the whole of the Dominion has an interest in its being kept clear of obstructions, and the Trinity House cannot therefore but strongly recommend that efficient means be taken as soon as possible for the removal of those above complained of.

PILOTS.

During the year ending the 30th June, 1872, six pilots have been pensioned and six others have died, leaving the number of pilots on the active list at the above date 229, including

- 3 temporarily suspended,
- 8 on the sick list,
- 4 in charge of steamers, and
- 4 in charge of light houses and light ships.

PROPOSED AMENDMENTS TO TRINITY HOUSE ACTS.

A case was brought under the notice of the Trinity House by the Corporation of Pilots in April last, of the total incapacity from infirmity of a pilot (Charles Boissel) while on board the pilot schooner No. 3 cruising below in search of vessels from sea, but the Board having no authority in the matter, informed the Government thereof by letter to the Deputy Minister of Marine and Fisheries, and recommended the law to be altered so as to empower the Trinity House to strike off the list such pilots as may become incompetent by sickness or other physical or mental incapacity to perform their duties.

The Trinity House at the same time, considering that pilots may become more or less disqualified, according to the length of time during which they are occasionally suspended for dereliction of duty, also recommended the granting to this Corporation authority for examining pilots temporarily deprived of their branches previous to their being reinstated or allowed to resume their duties as pilots.

In their Secretary and Treasurer's letter of the 9th of January, 1872, in answer to a communication received from the Deputy Minister of Marine and Fisheries, dated the 28th of December, 1871, the Trinity House gave it as their opinion that their corporation had jurisdiction over wrecked materials and other things picked up on the shores of the Magdalen Islands, but that owing to the distance and difficulty of communication with those islands, such jurisdiction was of no avail, and recommended a change in the law obliging finders to report such wrecked materials and effects to the nearest Harbor Master, and vesting that officer with the same authority as possessed by the Harbor Master of Quebec in such cases.

HARBOR OFFICE.

Capt. Jesse Dunn Armstrong having been placed on the superannuation list, Mr Gourdeau, Superintendent of Pilots, was appointed Harbor Master in his place.

1002 reports of arrivals of ships in the harbor were received and recorded in this office.

Reports were also received of the following effects picked up and saved within the port of Quebec, viz :—

Drift Timber.....	730 pieces.
Boats.....	29
Anchor and Chains.....	3

Returns of thirty-six casualties in shipping were received, recorded, and copies thereof forwarded to the Department of Marine and Fisheries.

SUPERINTENDENT OF PILOTS OFFICE.

Mr. John Smith was appointed Superintendent of Pilots in the room of Mr. Gourdeau, named Harbor Master.

Two trips were performed by the apprentice pilots in the exploration of the north channel of the river St. Lawrence, under the guidance of the Superintendent of Pilots.

Reports from pilots were received at this office and recorded, viz :—

Of pilotages up the river.....	1,288
do down „	1,167

DECAYED PILOT FUND.

Number of pensioners on the Fund, 31st December, 1871 :—

Decayed Pilots.....	39
Widows of Pilots.....	92
Children of Pilots	40
Total.....	171

Number of Pilots relieved..... 12

Receipts for the Fund during the year ended 31st December, 1871 :—

Poundage.....	\$7,128 06
Capital and interest on loans.....	5,873 81
Fines.....	62 00
Total.....	\$13,063 87

Payments out of the Fund.

Pensions.....	\$10,398 07
Relief.....	659 46
Disbursements.....	619 36
Investments.....	2,207 30
Total.....	\$13,884 19

State of the Quebec Decayed Pilot Fund, 31st December, 1871.

Money lent.... :	\$58,414 92
Interest due.....	811 01
Cash on hand.....	2,318 69
	\$61,544 62
Deduct arrears of pensions due.....	309 82
Total.....	\$61,234 80

RECEIPTS AND EXPENDITURES OF TRINITY HOUSE, QUEBEC DURING, THE YEAR ENDED 30TH JUNE, 1872.

Receipts.

Amount received from the Public Chest through the Department of Marine and Fisheries.....	\$7,793 00
Proceeds of Sale of unclaimed timber, fees in prosecutions before Trinity House, &c.....	64 00
Total.....	\$7,857 01

Expenditure.

Salaries Trinity House officers and employes.....	\$6,616 43
Contingencies.....	649 42
Harbor Office.....	395 15
	\$7,661 00
Paid to the Receiver-General.....	196 01
Total.....	\$7,857 01

TRINITY HOUSE, QUEBEC,

22nd October, 1872.

A LEMOINE,

Secretary-Treasurer.

APPENDIX 3.—STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, during the year 1872.

RECEIPTS.		\$	cts.	\$	cts.
Percentage or contributions of Pilots.....				7,590	35
Capital paid in and interest on loans received				5,053	30
Fines				100	00
				13,083	65
EXPENDITURE.					
Pensions				10,762	41
Relief				656	00
Sundry payments.....				565	62
				11,983	03
PERSONS RELIEVED OUT OF THE FUND.					
Jos. Mercier, Pilot.....				24	00
Henri Gauthier, ".....				16	00
L. N. Morency, ".....				24	00
J. Giroux, ".....				8	00
M. Mercier, ".....				12	00
L. Cinq-Mars, ".....				96	00
Pierre Gourdeau, ".....				96	00
Alexis Roy, ".....				48	00
Ed. Ronseaut, ".....				36	00
Isaac Forbes, ".....				96	00
Férol Bourget, ".....				48	00
Ed. Demers, ".....				52	00
				636	00
PENNSIGNERS ON THE FUND.					
<i>Infirm Pilots.</i>					
D'Amour, J. S.....				120	00
Lapointe, F. J.....				120	00
Paradis, N.....				120	00
Adam, J. E.....				96	00
Benville, R.....				96	00
Boucher, A.....				96	00
Caron, F.....				96	00
Caron J. B.....				96	00
Chamberland, A.....				96	00
Charest, P.....				96	00
Charest, V.....				96	00
Cinq-Mars, L.....				96	00
Cote, F.....				96	00
Curodeau, F.....				96	00
Dion, C.....				96	00
Fournier, G.....				96	00
Fournier, M.....				96	00
Gaulin, J. B.....				96	00
Genest, A.....				96	00
Genest, J.....				96	00
Gourdeau, J.....				96	00
Gourdeau, P.....				96	00
Lapointe, J.....				96	00
Lavoie, J.....				96	00
Lemieux, L.....				96	00
Menard, F. X.....				96	00
Morin, M.....				96	00
Nadeau, F.....				96	00
Paquet, P.....				96	00
Pelletier, F.....				96	00
Pelletier, J.....				96	00
Plante, G.....				96	00
Pouliot, P.....				96	00
Roussel, A.....				96	00
Roy, A.....				96	00
Carried forward				3,432	00

APPENDIX 3.—STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, &c.—*Continued.*

	\$	cts.	\$	cts.
<i>Brought forward</i>				
<i>Infirm Pilots.—Continued.</i>				
Roy, J. L.	96	00		
Smith, M.	96	00		
St. Pierre, C.	96	00		
Vaillancourt, E.	96	00		
Vézina, O.	96	00		
Vézina, M.	96	00		
Vézina, O.	96	00		
Forbes, J.	80	00		
Côté, R.	40	00		
Lapierre, Denis J.	40	00		
			4,104	00
<i>Widows of Pilots.</i>				
Widow Adam, C. J.	80	00		
Asselin, J. B.	80	00		
Asselin, L.	80	00		
Asselin, L. (M.L.)	80	00		
Baquet, F.	80	00		
Blanchette, L. D.	80	00		
Bernier, G.	80	00		
Bouchard, M.	80	00		
Caron, G.	80	00		
Chevalier, Ed.	80	00		
Couillard, F.	80	00		
Crepeau, P.	80	00		
Desrosiers, J.	80	00		
Dick, J.	80	00		
Dion, J.	80	00		
Doiron, A.	80	00		
Dumas, Chryst.	80	00		
Dumas, J.	80	00		
Dunford, T.	80	00		
Fournier, J.	80	00		
Glynn, D.	80	00		
Gourdeau, P.	80	00		
Irvine, W.	80	00		
Kenig, C. F.	80	00		
Lachance, O.	80	00		
Langelier, F.	80	00		
Langlois, J.	80	00		
Langlois, J.	80	00		
Langlois, P.	80	00		
Lapointe, A.	80	00		
Lapointe, F.	80	00		
Laroche, J. B.	80	00		
Lavoie, A., L. M.	80	00		
Lavoie, A., U. S.	80	00		
Lavoie, H.	80	00		
Levesque, F.	80	00		
Marcoux, J.	80	00		
Marticotie, H.	80	00		
Mercier, J.	80	00		
Michaud, A.	80	00		
Normand, P.	80	00		
Ouellet, A.	80	00		
Ouellet, E.	80	00		
Petitgrew, D.	80	00		
Pineau, B.	80	00		
Pouliot, Paul.	80	00		
Plante, J. M.	80	00		
Rioux, F.	80	00		
Roy, Desjardins J.	80	00		
Ruelle, J.	80	00		
<i>Carried forward</i>	4,000	00	4,264	00

APPENDIX 3.—STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Deceased Pilot Fund, &c.—*Continued.*

	Brought forward.....	\$ cts. 4,000 00	\$ cts. 4,264 00
<i>Widows of Pilots.—Continued.</i>			
Widow Simpson, F.....		80 00	
" Simusson, J.....		80 00	
" St. Amant, O.....		80 00	
" Amiot, W.....		64 00	
" Blouin, P.....		64 00	
" Bossinet, F.....		64 00	
" Campbell, J.....		64 00	
" Cote, C.....		64 00	
" Desnoyers, F.....		64 00	
" Desrosiers, P.....		64 00	
" Lachance, P. P.....		64 00	
" Ledere, F.....		64 00	
" Pelletier, M.....		64 00	
" Reilly, J.....		64 00	
" Royer, A.....		64 00	
" Gauthier, H.....		60 00	
" Ballantyne, P.....		48 00	
" Chassez, Z.....		48 00	
" Chouinard, C. W.....		48 00	
" Dandurand, J.....		48 00	
" Fortin, J.....		48 00	
" Keable, A.....		48 00	
" Morency, G.....		48 00	
" Rioux, M.....		48 00	
" Royer, F.....		48 00	
" Rouleau, P.....		48 00	
" Servant, J. B.....		48 00	
" Verrault, H.....		48 00	
" Blanchet, Z.....		40 00	
" Cavenagh, M.....		40 00	
" Caron, F.....		40 00	
" Cote, M.....		40 00	
" Fortier, A.....		40 00	
" Langlois, L.....		40 00	
" Lapierre, P.....		40 00	
" Lapointe, P.....		40 00	
" Michaud, P.....		40 00	
" McNeil, T.....		40 00	
" Plante, G.....		40 00	
" Raimond, A.....		40 00	
" Simard, R. E.....		40 00	
" Thivierge, J.....		40 00	
			6,264 00
<i>Children of Pilots.</i>			
Chasseur, Abraham (insane).....		48 00	
Child of D. Charest, (David) infirm.....		48 00	
" H. Couillard, infirm.....		48 00	
" L. N. Morency.....		40 00	
" R. E. Simard.....		40 00	
" Turgeon, C. E.....		40 00	
" D. Charest (Gervais) infirm.....		32 00	
" Gourdieu, J. (infirm).....		20 00	
" Pettigrew, W. (2).....		50 00	
" Côté, A.....		24 00	
" Boutin, T. (infirm).....		24 00	
" Toussaint, P. (infirm).....		24 00	
" Baquet, P. (infirm).....		20 00	
" Dupuis, F. (infirm).....		20 00	
" Forbes, P. (infirm).....		20 00	
" Fortin, C. (infirm).....		20 00	
" Fortin, N. (infirm).....		20 00	
" Gauthier, H. (infirm).....		20 00	
Carried forward.....		568 00	10,468 00

APPENDIX 3—STATEMENT of Monies received and paid by the Trinity House of Quebec, on account of the Quebec Decayed Pilot Fund, &c.—*Continued.*

	\$ cts.	\$ cts.
<i>Brought forward</i>	568 00	10,453 00
<i>Children of Pilots.—Continued.</i>		
Child of Jaban, J., (infirm).....	20 00	
„ McNeil, N. (infirm) (2).....	40 00	
„ Lavoie, E. (3 infirm) (5).....	96 00	
„ Pouliot, J. (infirm).....	16 00	
„ Turcotte, M. (2 infirm).....	32 00	
„ Garneau, P. (5).....	80 00	
„ Pineau, B. (infirm).....	12 00	
„ Raymond, J. (3).....	30 00	
		894 00
		11,362 00
<i>STATE OF THE FUND.</i>		
Money lent.....		57,089 54
Interest due by divers persons.....		282 32
Cash on hand.....		3,498 31
		60,870 17
Deduct arrears of pensions due this day.....		457 97
		60,412 20

A. LEMOINE,
Sec.-Treasurer.

(E. E.)

TRINITY HOUSE,
QUEBEC, 31st December, 1872.

Examined, VITAL TETU,
Master.

APPENDIX 3.—THE QUEBEC DECAYED PILOT FUND in Account Current with
Dr.

1872.	For the following Pensions and Relief paid during the year 1872 :—	\$	cts.
	For arrears of Pensions to 31st December, 1871.....	186	12
	Amount of Pension List for quarter ending 31st January, 1872.....	2,601	22
	do do do 30th April, 1872.....	2,666	53
	do do do 31st July, 1872.....	2,709	89
	do do do 31st October, 1872.....	2,598	65
	Relief during the year 1872.....		
			10,762 41
			636 00
	For the following sums paid :—		
	To Paid A. Coté & Co.'s account for printing blanks and publishing annual statement of the fund, in "Journal de Quebec" ..	42	38
	J. J. Foote's account for publishing annual statement of the fund in the Quebec "Morning Chronicle".....	23	24
	Secretary-Treasurer's yearly allowance for a Clerk to assist in the collection and distribution of the Decayed Pilot Fund.....	440	00
	Balance		
			505 62
			3,498 31
			15,402 34

Sworn to, as being correct and true, this 2nd January, 1873.

(Signed) J. GREAVES CLAPHAM, J. P.

Examined Balance on hand, Three thousand four hundred and ninety-eight dollars and thirty-one cents.

(Signed,) VITAL TETU,
Master.

A. LeMoine, Esq., Secretary-Treasurer of the Trinity House of Quebec.

CR.

	\$	cts.	\$	cts.
1872. By balance in the hands of the Secretary-Treasurer on 31st December, 1871.....			2,318	69
<i>Capital and Interest received from the following during the year 1872 :—</i>				
From Quebec Corporation, 1 year's interest on \$9,000, to 1st July, 1872.....	630	00		
„ Quebec Road Trustees, 1 year's interest on \$22,800, to 1st July, 1872.....	1,368	00		
„ Quebec Harbour Commissioners, 1 year's interest on \$1,000, to 1st January, 1871.....	60	00		
„ Estate P. Boisseau, 1 year's interest on \$2,600, to 26th January, 1872.....	156	00		
„ Trustees St. Andrew's Church, 1 year's interest on \$2,000, to 17th November, 1871.....	120	00		
„ Dominion of Canada, 1 year's interest on \$16,400, to 30th September	984	00		
„ A. Marmen, 2 year's interest on \$260, to 20th March, 1871.....	28	80		
„ A. Fournier, 1 year's interest on \$1,200, to 27th January, 1872...	72	00		
„ Joseph Pouliot, 1 year's interest on \$100, to 12th December, 1872.	6	00		
„ Antoine Lapointe, 1 year's interest on \$100, to 20th November, 1872.....	6	00		
„ La Banque Nationale, on account of special deposit.....	1,500	00		
„ Henri Gauthier, balance of his debt.....	16	00		
„ J. B. Turgeon, balance of his obligation of 6th March, 1866, \$100 00				
Thirteen months' interest to 1st July, 1872, 6 50	106	50		
			5,053	30
<i>Fines.</i>				
Amount received during the year 1872.....			100	00
<i>Poundage.</i>				
Amount collected during the year 1872.....			7,930	35
			15,402	34

(E. E.)

TRINITY HOUSE, QUEBEC,
31st December, 1872.

(Signed,) A. LEMOINE,
Secretary-Treasurer.

APPENDIX No. 4.

REPORT OF THE AGENT OF THE DEPARTMENT OF MARINE AND FISHERIES AT QUEBEC FOR THE YEAR ENDED 30TH JUNE 1872.

AGENCY OF THE DEPARTMENT
OF MARINE AND FISHERIES,
QUEBEC, 25th November, 1872.

To the Honorable P. MITCHELL,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honor to transmit the annual report of this agency, for the fiscal year ended 30th June, 1872.

Since my last annual report, I have to note a continued increase in the duties connected with the agency. The construction of so many new lighthouses and steam fog alarms, added to those already in operation, and the management of the Dominion steamers, buoys, and beacons, humane establishments for the relief of distressed seamen, river police, and marine police for the protection of the fisheries, with such other matters as may be required to be attended to here, keep the staff of this agency fully occupied.

Remarks connected with the several services are placed under their respective headings.

LIGHTHOUSES, FOG ALARMS, PROVISION DEPOTS, BUOYS AND BEACONS.

The district under the supervision of this agency begins at Port Neuf, 45 miles above Quebec, and extends to the Island of Belle Isle, Straits of Belle Isle, including Labrador, a portion of the shores of Newfoundland, the Magdalen Islands, Gaspé Bay and Chaleur Bay, and comprises 39 lighthouses, now in operation, three steam fog alarms, eight fog guns, five light ships, 51 buoys and 53 beacons, seven provision depôts, and 15 new lighthouses and fog alarms, in course of construction.

During part of the season I was assisted by Captain John Smith, Superintendent of lighthouses, who possesses experience and intimate knowledge of the requirements of this service; but owing to his being appointed superintendent of pilots, the duties formerly performed by him have been divided among the regular staff of the agency, Mr. E. Buteau attending to the books and records of the lighthouses, and keeping them properly furnished with necessary supplies, &c., &c.; Mr. Blanchet, book-keeper, making himself generally useful, while Captains Marmen and Gourdeau have inspected the different lighthouses, delivered supplies, laid down and taken up buoys, &c. Mr. Barbour, chief engineer and his men, have rendered valuable assistance in repairing the machinery and maintaining it in good order; Mr. Carroll, engineer of the Steamer *Druid*, has also been very useful for the same purpose.

The steamers were both overloaded on their supply trips this season, and as the number of lighthouses has been greatly increased, it is very necessary that two trips be made each season, as by this means the two steamers can do all the work by taking less for each point on both occasions, and two inspections could be made yearly. It would also afford means of furnishing any supplies necessary for the different lights which might be found in want on the first trip.

The oil supplied by Messrs. F. A. Fitzgerald and Company was of good illuminating and durable quality, and, at the same time, cheap. I have also to notice a great improvement in the quality of the wicks and chimneys furnished by Mr. E. Chanteloup, of Montreal, and Mr. Vallerand, of Quebec. The chimneys stand the heat of the lamps better than any heretofore supplied, and consequently a great saving has been effected by so much less breakage.

The fog alarms have proved to be of the greatest advantage to navigation, frequent acknowledgments having been made by pilots and captains of vessels, who, during heavy fogs and snow storms, have stood upon their vessels' decks in the greatest of anxiety until the welcome sound of the fog whistle or gun has warned them of the dangers against which they must guard.

The lighthouses, fog alarms, &c. from Port Neuf to Cape Chatte, were officially visited by your Deputy, William Smith Esq., who personally inspected every place, and acquired a knowledge of all the requirements and nature of the service, which will be of the greatest value in assisting the Department to understand at once the importance of any representations made by the keepers or myself.

As you yourself have also visited many of the lights in the Gulf, including Magdalen Islands, Anticosti and Bird Rocks, I find that since you and your deputy have such a practical knowledge of every lighthouse and fog alarm under the Department, much less explanation is necessary, and the duties of the agency easier than they could possibly be, were such not the case.

LIGHTHOUSES AND FOG ALARMS.

(For description, see list of lights in the *Dominion of Canada, Appendix No. 31, of Annual Report for fiscal year ended 30th June, 1872.*)

PORT NEUF LIGHTHOUSE.—F. RODRIQUE, KEEPER.

The repairs authorized to be made to the lower building have been finished; the upper tower is in excellent condition. Changes made in the lamps: two of Chanteloup's No. 1 circular-burners and reflectors replacing the old flat-wick kind formerly used, by which the light has been greatly improved, and is giving general satisfaction. This light consumes about 200 gallons of oil per season.

Two fixed white lights,—Upper Tower one, and Lower Tower two, circular burner No. 1 lamps, catoptric light.

ST. CROIX LIGHTHOUSE.—J. THURBER, KEEPER.

Some defects having been observed in this light, two of Chanteloup's No. 1 circular burner lamps and reflectors were put in the lantern in place of the flat wick ones, which has greatly improved the light. It is difficult to get as good a light at this place as at many others, owing to its very low position and proximity to the high embankment. The building has been put in good order for some years to come.

The light consumes about 120 gallons of oil per season. Fixed white light. Two circular-burner No. 1 lamps; catoptric light.

ST. ANTOINE LIGHTHOUSE.—L. LAFLEUR, KEEPER.

Some repairs were found necessary to the foundation of the tower, which have since been made, and two of Chanteloup's No. 1 circular-burner lamps and reflectors were put in place of the former flat-wick ones, and the light is now pronounced to be equal to any on the river. Consumes about 120 gallons of oil per season. Fixed white light; two circular burner No. 1 lamps; catoptric light.

POINT ST. LAWRENCE LIGHTHOUSE.—J. CHABOT, KEEPER.

The repairs authorized last season to be made to this tower have been completed at a cost of \$113, and the building is now in good order. Consumes about 180 gallons of oil per season. Fixed white light; five mammoth flat-wick lamps; catoptric light.

BELLECHASSE LIGHTHOUSE.—E. THIVIERGE, KEEPER.

This lighthouse required repairing, which was done at a cost of \$25, and is now in very good order. Consumes about 180 gallons of oil per season. Fixed white light; five flat-wick mammoth burner lamps; catoptric light.

MONTE DU LAC LIGHTHOUSE.—E. SIMARD, KEEPER.

This light was found in good order. The stairs and shed erected last season being of great advantage. The expenditure for the above amounts to \$384.10. Consumes about 90 gallons of oil per season. Fixed white light, 2 flat wick No. 1, and 1 circular burner No. 1 lamps, catoptric light.

CRANE ISLAND LIGHTHOUSE.—J. PAINCHAUD, KEEPER.

The tower having been found too small to lodge the keeper and his family, a small building has been erected adjoining, costing \$58.89, affording comfortable room. The Light consumes about 220 gallons of oil per season. Fixed white light; five flat-wick mammoth burner lamps; catoptric light.

STONE PILARS LIGHTHOUSE.—D. BABIN, KEEPER.

Nothing has been done to this lighthouse this season, but some slight repairs will soon be necessary. A small boat was furnished to the keeper, the old one being rendered useless by age. The new boat cost \$30. Consumes about 350 gallons of oil per season. Revolving white light, revolving every minute and a half; 15 flat-wick No. 1 burner lamps; catoptric light.

UPPER TRAVERSE LIGHT SHIP.—CAPTAIN M. DECHÉRRE.

This vessel was placed at her station in October, 1871, and serves well the purpose for which she was intended, that of assisting vessels through the traverse. Owing to the excessive cold of the 28th and 29th November last, she was unable to reach her winter quarters near Quebec, but was obliged to run over to Les Eboulements where she wintered.

She was fitted out for service as well as could be done at that place at a cost of \$269.76. She will require further repairs next spring. Consumes about 50 gallons oil per season. Two dioptric lanterns at mast head. Fixed white light—one eight feet above the other; bell kept tolling during fog and snow storms.

LOWER TRAVERSE LIGHT SHIP.—CAPTAIN J. GOURDEAU.

This vessel, for the same cause as the former, ran over for safety, on the 29th November, to Les Eboulements, where she wintered. She required little repairs, costing \$72.74. New chain cable and life preservers were supplied her. Some caulking and painting will be necessary next spring. Consumes about 200 gallons of fish oil per season. Two fixed white lights four feet difference in height; 16 flat-wick lamps for fish oil; bell kept tolling during fogs and snow storms.

GROSSE ISLE, KAMOURASKA LIGHTHOUSE.—F. ROY DES JARDINS, KEEPER.

Considerable improvements were made in this light which was defective from not being properly distributed. Seven mammoth flat-wick lamps were formerly used, four below and three above; three were taken off, and replaced by two of Chanteloup's No. 1 circular-burner lamps, making six instead of seven, which enabled their being distributed to such advantage as to very much improve the light. Repairs to the extent of \$53.50 were necessary. Consumes about 230 gallons of oil per season. Fixed white light; four flat-wick mammoth burner and two circular No. 1 lamps; catoptric light.

LONG PILGRIMS LIGHTHOUSE.—J. C. MARQUIS, KEEPER.

The necessary and authorized repairs to this light were done in a satisfactory manner. Although the sum of \$260 was allowed for these repairs, the actual cost was only \$238.60, and all is now in good order. It consumes about 80 gallons of oil per season. Fixed white 4th order dioptric light. One mammoth flat-wick burner lamp.

BRANDY POTS LIGHTHOUSE.—J. B. PICARD, KEEPER.

¹ The repairs required for this lighthouse will not be proceeded with till after the present fiscal year, only \$18.20 having been thus far expended. They will cost much less than at first estimated. Both the tower and light are in good order. It consumes about 70 gallons of oil per season. Fixed white 4th order dioptric light. One flat-wick mammoth burner lamp.

RED ISLAND LIGHTHOUSE.—E. FRASER, KEEPER.

This lighthouse was put in good order at a cost of \$57.30. Consumes about 700 gallons of oil per season. Fixed red light; 24 No. 1 flat-wick burner lamps; catoptric light.

RED ISLAND LIGHT SHIP AND STEAM FOG WHISTLE.—CAPTAIN. J. LEVESQUE, KEEPER.

This staunch iron vessel has done good service since stationed here, and has been distinctly heard 17 miles off. During the extreme cold of the 29th of November last, she was caught in the ice near St. Laurent, on her way up, and dragged her anchor until it caught, when her powerful cable snapped asunder, and she was forced to battle with the ice for some time until towed away to winter quarters at Indian Cove, by the steamer *Napoleon III*. The captain of this vessel, as well as those in charge of the two traverse light ships, displayed a good deal of ability in saving their respective crafts at a time when so many valuable ships were abandoned in the ice. Her anchor, Trotman's patent, together with 45 fathoms of chain were lost, and have not yet been recovered. A new one had to be purchased, at a cost of \$354.45. The Light consumes about 350 gallons of oil per season. Fixed white light; six circular-burner No. 2 lamps; catoptric light. Fog whistle blown ten seconds in every minute.

GREEN ISLAND LIGHTHOUSE AND FOG GUN.—G. LINDSAT, KEEPER.

This is one of the most important lights in Canada, and was built in 1844, since which time it has been of immense service to the shipping. It is situated nearly opposite the Red Island Light Ship. Being also a fog gun station, it requires a large supply of powder, as the gun is fired every half hour during fogs and snow storms, which are very frequent. Everything is in a good state of order and preservation, and no repairs have been needed for some years past. It consumes about 400 gallons of oil per season, and 3,000 pounds of powder. Fixed white light; 13 No. 1 flat-wick burner lamps; catoptric light. Gun fired every half hour during fogs and snow storms.

BIQUET LIGHTHOUSE AND FOG GUN.—J. F. BECHARD, KEEPER.

Repairs to the extent of \$65.48 have been necessary to this tower. This is also a fog gun station. It consumes about 500 gallons of oil per season, and 1,500 pounds of powder. Revolving white light every two minutes, 21 flat-wick No. 1 burner lamps; catoptric light. Gun fired every hour during fogs and snow storms.

FATHER POINT LIGHTHOUSE.—D. LAWSON, KEEPER.

Some expenditure was necessary here to sink a well. It cost \$50. The building will require painting next year. It consumes about 220 gallons of oil per season, and 500 pounds of powder. Fixed white light; five mammoth flat-wick burner lamps; catoptric light.

POINT DE MONTS LIGHTHOUSE AND FOG GUN.—P. POULIOT, KEEPER.—(*Since resigned.*)

The tower and buildings are in excellent order, not having required any repairs for some time. Owing to the present keeper's continued state of ill health, a change will soon be necessary. It consumes about 500 gallons of oil per season, and 700 pounds of powder. Fixed white light; 17 flat-wick No. 1 burners; catoptric light. Gun fired every hour during fog and snow storms.

CAPE CHATTE LIGHTHOUSE.—J. ROY, KEEPER.

This light, which is a revolving one, has worked well since first exhibited. An oil shed has been authorized, and will be erected during next season. The land upon which it stands, and a portion of land surrounding it, has been purchased by Government. Some expenditure will be necessary to make roads, improve landing, clear away the turf around the buildings, &c. The light consumes about 500 gallons of oil per season. White flash light every 30 seconds; six circular No. 1 burner lamps; catoptric light.

EGG ISLAND LIGHTHOUSE.—P. COTE, KEEPER.

This building is unfinished. Stays for the lantern are required. The revolving apparatus works well. The light is excellent, and is highly spoken of by ship masters. A boat is required to enable the keeper to communicate with passing vessels when necessary, and to render assistance in case of distress. The boat has been authorized to be procured. The light consumes about 300 gallons of oil per season. Revolving white light—flash every minute and a half; four No. 1 circular-burner lamps; catoptric light.

MAGDALEN RIVER LIGHTHOUSE.—P. SAVAGE, KEEPER.

This new light has been pronounced to be a powerful one, and is seen a long distance off. The revolving apparatus works well. It consumes about 300 gallons of oil per season. Revolving red and white light, exhibiting alternately red and white every four minutes, with an interval of two minutes between each flash; four circular No. 1 lamps; catoptric light.

SEVEN ISLANDS LIGHTHOUSE.—A. RIVERIN, KEEPER.

This light has not given satisfaction since it was built, and has been the cause of considerable anxiety. It is now burned down, from the explosion of one of the lamps. No light is now exhibited there.

CAPE ROSIER LIGHTHOUSE AND FOG GUN.—A. TRUDEAU, KEEPER.

This light is in good order. \$20.10 was spent on some necessary repairs. It consumes about 220 gallons of oil, and 1,500 pounds of powder per season. Fixed white dioptric first order light; five mammoth flat-wick burner lamps. Gun fired every hour during fogs and snow storms.

WEST POINT, ANTICOSTI LIGHTHOUSE AND FOG GUN.—L. MALOUIN, KEEPER.

This light is in good order. It consumes about 220 gallons of oil per season and 1,200 pounds powder. Dioptric second order white light; five mammoth flat-wick burners attached to fountain lamp. Gun fired every hour during fog or snow storms.

SOUTH WEST POINT, ANTICOSTI LIGHTHOUSE.—E. POPE, KEEPER.

This lighthouse is in good order, and has required no repairs. It consumes about 500 gallons of oil per season. Revolving white light every three minutes; 21 No. 1 flat-wick burner lamps; catoptric light.

HEATH POINT, ANTICOSTI LIGHTHOUSE.—T. GAGNÉ, KEEPER.

The light is in good condition, no repairs required. It consumes about 400 gallons of oil per season. The tower will require painting during season of 1873. Fixed white light 17 No. 1 flat-wick burner lamps; catoptric light.

SOUTH POINT, ANTICOSTI LIGHTHOUSE AND STEAM FOG WHISTLE.—D. TETU, KEEPER.

The lighthouse and fog whistle, since erection, have given some trouble, owing to the difficulty of getting a proper supply of fresh water, which is now remedied, and will no doubt work well.

For the future, a horse is required to haul fuel. The light consumes about 1,200 gallons of oil per season. The consumption of fuel cannot be estimated till next season. Revolving white flash light every 20 seconds; 12 circular-burner No. 1 lamps; catoptric light. Fog whistle blown during fog or snow storms 10 seconds in every minute.

GASPÉ BASIN LIGHT.—J. EDEN, KEEPER.

This is a red light on the catoptric principle; was in good order. It consumes about 70 gallons of oil per season. Mammoth flat-wick burner with reflector in a lantern, elevated to top of flagstaff about 30 feet high, at the end of Eden's wharf.

GASPÉ LIGHT SHIP, SANDY BEACH.—J. ASCAH, KEEPER.

This vessel is performing good service. There is still an impression that if one of the lights was white instead of both red, the white would be seen farther off than the red. The objection that a white light might be taken for a shore light is not a serious one, as vessels coming in would not depend entirely upon the white light until they had also seen the red one. It consumes about 80 gallons of oil per season. The above has since been adopted, and the vessel now shows a white and a red light, the former six feet above the latter.

PASPEBIAC LIGHTHOUSE.—F. GALLIE, KEEPER.

This light is in good order, and consumes about 120 gallons of oil per season. Fixed white light; two circular No. 1 burner, and one flat-wick No. 1, lamps; catoptric light.

CARLETON POINT LIGHTHOUSE.—E. LANDRY, KEEPER.

This light has been working well since first exhibited on the 1st of June 1872.

BIRDS ROCKS LIGHTHOUSE.—J. CHAPMAN, KEEPER.

Since first exhibited this light has given good satisfaction. Great difficulty is still experienced in landing supplies. Another landing at the north-west end of the island is necessary. This could be done by blasting away the overhanging rock, and putting up a good crane with a box attached to the wire rope. The distance from top of rock to the water's edge is about 122 feet. I have no doubt that if this be adopted, a landing can be effected at either one or the other end of the Island at any time, except during very heavy storms.

N.B.—By the authority of the Department, men have been sent down to make the necessary improvements, which will be reported upon next year. It consumes about 200 gallons of oil per season. Fixed second order dioptric white light; one circular-burner lamp.

AMHERST ISLAND LIGHTHOUSE.—WILLIAM CORMIER, KEEPER.

This light has been working very well since built. It consumes about 400 gallons of oil per season. Revolving white and red light, red every 30 seconds, white every 30 seconds; four circular No. 1 burner lamps; catoptric light.

CAPE RAY LIGHTHOUSE.—ROBERT RENNIE, KEEPER.

This light is working well. A boat will be required for the keeper's use. The light consumes about 1,200 gallons of oil per season. Revolving white light, revolves every two and a-quarter minutes, flash every ten seconds; twelve No. 1 circular-burner lamps; catoptric light.

POINT RICH LIGHTHOUSE.—E. ROY, KEEPER.

This light has worked well so far, and has been seen by vessels passing fifteen miles off. It consumes 1,200 gallons of oil per season. White flash every 15 seconds; 12 No. 1 circular burner lamps; catoptric light.

FORTEAU LIGHTHOUSE AND FOG GUN.—P. GODIER, KEEPER.

Everything in good order here. The light consumes about 220 gallons of oil per season, and the fog gun 1,500 pounds of powder. Fixed second order dioptric white light; five mammoth flat-wick burner lamps. Gun fired every hour during fogs or snow-storms.

CAPE NORMAN LIGHTHOUSE.—H. LOCK, KEEPER.

Owing to some defect, this light has been extinguished since November last. As soon as navigation allowed, a competent person was sent down to put it in order, which was done as early as possible. It consumes about 600 gallons of oil per season. Revolving white flash every two minutes; six No. 1 circular burner lamps; catoptric light.

BELLE ISLE LIGHTHOUSE AND FOG GUN.—M. COLTON, KEEPER.

This light is in good order. A new fog gun will be required to replace the old one, which from frequent use is getting to be unsafe. The light consumes about 200 gallons of oil, and the gun 2,000 pounds of powder. Fixed first order dioptric white light; five mammoth flat-wick burner lamps.

PROVISION DEPOTS.

These depôts, in charge of lighthouse keepers and others, for the relief of distressed seamen, are supplied with pork, flour, peas, tea, sugar, and some clothing and medicines, and are distributed as follows:—

SHALLOP CREEK PROVISION DEPÔT, IN CHARGE OF MR. B. BRADLEY.

This depot next year will be removed to the south point of Anticosti, and will be placed in charge of Mr. D. Tetu, as Mr. Bradley is to be superannuated. The stock of supplies kept here for distressed seamen consists of fifteen barrels of flour, five barrels of peas, eight barrels of pork; twenty pounds sugar, twelve pounds tea, medicine, twelve pair boots, twenty-four pair drawers, twelve pair pants, twelve pea-jackets, four pair shoes, four pair snow-shoes, twenty-four pair socks, twelve fur caps, twelve comforters, twelve pair mitts.

ELLIS BAY DEPÔT, ANTICOSTI, IN CHARGE OF CAPTAIN R. SETTER.

Supplies consist of fifteen barrels flour, one barrel peas, seven barrels pork, ten pounds tea, forty pounds sugar, one iron kettle, twelve tin cups, twelve tin dishes, one box medicine, twelve pairs boots, twelve shirts, twenty-four pairs drawers, twelve pairs pants, twelve pea-jackets, four pairs shoes, ten pair snow-shoes, twenty-four pairs socks, twelve comforters, twenty-four pairs mitts, twelve fur caps.

BELLE ISLE PROVISION DEPÔT, IN CHARGE OF MR. MARTIN COTTON.

Supplies consist of sixteen barrels flour, seven barrels peas, seven barrels pork, thirty pounds sugar, ten pounds tea.

SOUTH WEST POINT, ANTICOSTI, IN CHARGE OF MR. E. POPE.

In December last, the barque *Russia* became a total wreck at this place. One of the crew was lost; the captain and nine men were saved, and taken care of by Mr. Pope and his family for five months. Captain Redden speaks in the highest terms of the kindness they received. Most of the men were badly frost bitten; their sores were dressed, and during the long winter months every possible comfort was given them. The stock of supplies consists of fifteen barrels flour, seven barrels pork, one barrel peas, thirty pounds sugar, ten pounds tea, twenty-eight coats, four caps, eight shirts, five comforters, fifteen pairs drawers, and five pairs socks.

POINT DES MONTS PROVISION DEPÔT, IN CHARGE OF MR. PAUL POULIOT.

The stock of supplies consists of ten barrels flour, eight barrels peas and seven barrels pork.

WEST POINT ANTICOSTI PROVISION DEPÔT, IN CHARGE OF MR. L. S. MALOUIN.

The supplies consist of six barrels flour, four barrels pork, eight barrels peas, six pairs of snow-shoes.

HEATH POINT, ANTICOSTI PROVISION DEPÔT, T. GAGNÉ, KEEPER.

The supplies consist of two barrels peas, seven barrels flour, three barrels pork, thirty pounds sugar, ten pounds tea.

BUOYS.

This agency has under its supervision 52 buoys, situated between Red Island and Cape Santé in the River St. Lawrence, Amherst Harbor, Magdalen Islands, and Gaspé Basin. In the River St. Lawrence the buoys and beacons are frequently carried away or injured by passing vessels, and require to be carefully attended to by being replaced, put in position or repaired, which service is performed by one of the Dominion steamers stationed at Quebec.

In the River St. Lawrence, all black buoys are on the south side of the channel, excepting the one at Beaugneau's Patch and White Island, which can be passed on either side, and Vache's Patch near the Saguenay, which can be passed on the south side only.

The red buoys are all placed on the north side of the channel. The white and chequered buoys indicate rocks or ends of shoals which can be passed on either side, except the white and chequered buoys off the Saguenay, which are to be left to the north. The green buoys indicate sunken wrecks.

Owing to the sudden and intense cold of the 28th and 29th of November last, six buoys were carried away by the ice, and had to be replaced in the spring. A new tubular buoy, made by Messrs. D. and J. McCarthy, of Sorel, was put in place of the spar buoy at Platon, and is seen much farther off. A green buoy was also placed over the wrecked barque *Chryseïs*, opposite the church at St. Jean Port Joli. The green buoy at Grosse Isle, marking the wrecked barque *Glenmore*, has been taken away, the wreck having been removed.

BEACONS.

The beacons under the supervision of this agency number 53. Those on the River St. Lawrence act as bearings to station buoys, and leading marks to vessels up and down the channel. Those on the Island of Anticosti are to enable vessels to distinguish the different points, owing to the general sameness of the character of the shores of the island. Between Cape Rosier and Cape Chatte, for the same purpose. The two on the Labrador shore also distinguish the points of the coast, and mark the entrance to Bonne Espérance and Coachoo Bays, both excellent harbors of refuge. The total number of fifty-three are distributed thus:—

- 1 at St. Valier.
- 9 „ Crane Island.
- 2 „ Goose Island.
- 1 „ Wood Pillar.
- 1 „ St. John's Point.
- 4 „ St. Rochs.
- 2 „ Grand Island, Kamouraska.
- 2 „ Hare Island.
- 1 „ Cacouna.
- 3 „ Green Island.
- 2 „ Red Island.
- 3 „ Saguenay.
- 3 „ Bic Island.
- 2 „ St. Fabien.
- 4 „ On south side Anticosti.
- 3 „ On north side Anticosti.
- 2 „ On Labrador Coast.
- 5 „ Between Cape Chatte and Cape Rosier.
- 2 „ St. François, Island of Orleans.
- 1 „ Cape Rouge, Monte du Lac.

The beacon at Pavillon River, Anticosti, was repaired by Captain Setter. Two new beacons have been erected at St. François, east end of the island of Orleans, and one at Cape Rouge, Monte du Lac, and one at Bay St. Catharine, Saguenay. The beacon at Cacouna was blown down and destroyed, and was replaced by a new one. The new beacons at St. François, east end of the Island of Orleans, and Cape Rouge, Monte du Lac, are for the purpose of guiding vessels through the traverse of the north channel, and facilitate placing of buoys. The Saguenay beacon is to facilitate the laying down of buoys at the Spit Shoal. Three erected by Captain Levesque, are to assist the Red Island light ship to take her station, two being on Green Island, and the other on Red Island.

LIST OF NEW LIGHTS UNDER CONTRACT AND BUILT.

- Lark Islet,—built.
- Matane,—under contract.
- Port Neuf, Saguenay,—under contract.
- Cape Despair,—under contract.
- Gaspé Point,—under contract.
- Macquereau Point,—under contract.
- Magdalen Islands,—under contract.
- Manicouagan light ship,—finished.

LIST OF NEW STEAM FOG WHISTLES UNDER CONTRACT AND BUILT.

Gaspé Point,—under contract.
 Magdalen Islands,—under contract.
 Manicouagan,—finished.

QUEBEC RIVER POLICE AND SHIPPING OFFICE.

The accounts and disbursements for these services are also under the supervision of this agency. Reports of the operations are made by R. H. Russell, Esq., Chief of the River Police and Shipping Master.

Distressed British seamen are also cared for by the Shipping Master.

The Board of Steamboat Inspection and the Board of Examiners of Masters and mates hold their sittings in the rooms of the office of this agency.

DOMINION STEAMERS.

These vessels are every year becoming more useful. The building of so many new lighthouses, with those already erected in the River and Gulf of St. Lawrence, Straits of Belle Isle, and the coasts of Newfoundland and Labrador, upon points of the most dangerous character, where no sailing vessel should venture, in fact the lighthouses being put there to warn them away, none but powerful steamers, commanded by prudent and experienced masters, and manned by good crews, should undertake the duties. The supplies at Anticosti and other points are landed in ships boats, manned by six men, and rowed from one to three miles from where the steamer is obliged to lay to, requiring from six to ten trips, frequently through very rough seas; twelve to fourteen strong men, with two good boats, are needed for the purpose. It has sometimes happened that a sudden storm has sprung up, with a strong wind blowing on the land, and so rapidly increasing in strength as to prevent the boats from returning to the steamer, and she has been compelled to run far out to sea to get away from the treacherous neighborhood, some days elapsing before she could take off the men. Before a sailing vessel could get her men on board, and sails and anchors up, she would be driven among the breakers. Besides being well employed on the above important duties, the steamers are also frequently engaged in rendering assistance to vessels in distress in the Gulf, and are depended upon to a great extent in such emergencies for the saving of life and property. A fair charge is made for the time occupied in such service, and the amounts so accruing are deposited to the credit of the Receiver-General as revenue, enough being collected to go a considerable way towards paying for fuel, &c., annually consumed.

The steamers under the supervision of this agency are the steamship *Napoleon III*, a powerful iron screw steamer, built in 1856 by Messrs. R. Napier and Sons, Glasgow, and of 300 horse power, but which can be worked up to 700. She is of 494 tons gross tonnage, and can carry about 2,000 barrels, with a magazine capable of containing 10,000 pounds of powder. She has been commanded for the past sixteen years by Captain Eugene Gourdeau, who is also a branch pilot for the River St. Lawrence below Quebec. Her chief engineer, Mr. Wm. Barbour, formerly of the establishment of Messrs. R. Napier and Sons, Glasgow, Scotland, came out with her from that country, and has been in the employ ever since. The captain's mate, Mr. Joseph Leblanc, who has had thirty years experience at sea in vessels sailing to foreign countries, and the second mate, Mr. Jerome Lavard, who has been sixteen years on the steamer, are fully qualified for the duties they perform. The second engineer, Mr. Thomas Drysdale, has been several years in the employ, and possesses a first-class certificate, and is a good mechanic. The rest of the crew is composed of the usual seamen obtained at this port when wanted. The side-paddle

steamship *Druid*, built of iron in 1856, by Messrs. Todd & McGregor, Glasgow, and of 170 horse power, can carry about 1,000 barrels, and has a powder magazine capable of holding 6,000 pounds. She is commanded by Captain Anselm Marmen, who has been fourteen years in the employ, and is also a branch pilot for the Lower St. Lawrence. The first engineer, Mr. Stephen Carroll, has been sixteen years in the employ, and is assisted by Mr. Joseph Rolph, a first-class engineer and good mechanic. The mate, Mr. Jean Landry, is an excellent coaster of twenty-five years' experience, fourteen of which have been spent in this employ. The balance of the crew is made up, as in the case of the steamship *Napoleon*, from time to time as wanted, from the usual seamen obtained at this port.

The services performed by these steamers during the past season are as follows:—

Movements of Steamship "Napoleon III.," 1871.

July 24th.—Left at 4.30 p.m., laden with supplies for the lighthouses in the Gulf of St. Lawrence, Straits of Belle Isle, and the coasts of Labrador and Newfoundland.

August 27th.—Returned from having supplied and inspected the following points:—Seven Islands, Magdalen River, Cape Rosier, West Point, South Point, South-West Point, Heath Point, Ellis Bay, Shallop Creek, Anticosti, Bird Rocks, Magdalen Islands, Cape Ray, Point Rich, Forteau, Belle Isle, Cape Normand, and Gaspé, and towed up from Gaspé Basin the American prize schooner, *Franklin S. Schenck*, seized by the Dominion cutter, *New England*, commander D. M. Brown, for violation of the Fisheries Act.

September 5th.—Left at midnight for Cariboo Islands, to assist the wrecked ship *Glenallan*.

September 9th.—Returned to Quebec; *Glenallan* not in a condition to be taken off.

September 13th.—Left for St. Pierre Miquelon, at 11 a.m., to assist the wrecked ship *Firth of Clyde*, which was moved to a place of safety to be made fit for sea, as she was not in a condition to be towed up to Quebec. Left St. Pierre Miquelon on the 28th, at 5 p.m. Fine weather. At 6.30 p.m., shaped course to run up the channel between St. Paul's Island and Cape Ray. Between one and two o'clock next morning, a very thick fog sprang up. Due allowance for the deviation of compass, caused by the attraction of new iron bulwarks, was made, and the engines were slackened to three-quarter speed. At 6 a.m. on the 21st, during a very dense fog, ran stem on a rock at the end of the reef, about one mile from shore, near Burnt Island, Newfoundland. She then listed over to the starboard side. The sea being calm at the time, did not labour much. She was got off, and ran upon a soft bottom. The water being pumped out, she was examined, and found injured in some of her bottom plates. These leaks were stopped up, and the captain then telegraphed that no assistance would be required. Returned to Quebec on September 27th, and was put into dry dock and repaired. Captain Gourdeau reports that Mr. Barbour, chief engineer, with his assistants and men, and the mates and crew, acted with judgment, promptness, and courage, in helping to save the vessel from more serious injury.

November 28th.—Left at 12.40 p.m., to tow up to winter quarters the Red Island and the two Traverse light ships, and to bring up balance of buoys,—Captain Marmen in command, owing to serious illness of Captain Gourdeau. He was instructed to render all possible assistance to outward-bound vessels that he might meet requiring assistance.

The following is—

Report of Captain Marmen, in command of the Steamship "Napoleon III."

Left Quebec on 28th November, at 12.40 p.m., with instructions from Mr. Gregory to proceed below and render all possible assistance to any ships requiring it, and also to

place the light-ships in a place of safety. At 3.30 p.m., passed the *Pomona*, *Ardmillan*, *Three Bells*, and two other vessels, under sail. Strong fair wind. Channel clear of ice,—none requiring assistance. At 5 p.m., entered the ice, expecting to cut through and get into clear water again. Pushed on, the ice becoming denser. Found great difficulty in going forward, driving full speed, equal to 700 horse-power. Vessel almost unmanageable, and would not steer in the ice. Impossible to return. Got clear of the ice when below the Pillars: the wind had been strong S.W. all day, and was here as strong as N.N.E. as it had been all day from the opposite direction, consequently jamming the ice in this part of the river. At 7.45, anchored below the lower traverse light-ship, on the north side of the channel, to be ready to run to the assistance of ships above, should a change take place, leaving the light-ship to guide vessels through the traverse.

November 29th.—Wednesday. Before daylight this morning, on the flood-tide, several large patches of ice drove past the steamer. Wind strong from N.W., with very heavy squalls; weather intensely cold, and ice forming fast. No ships in sight. One of the light-ships obliged to weigh her anchor; the other slipped her cable, on account of the heavy pressure of the ice coming down with the ebb-tide. Seeing no vessels anywhere, ran over to the assistance of the two light-ships, and towed them to the nearest place of safety—Les Eboulements. Met a considerable quantity of ice in the north channel. Before leaving with the light-ships for Les Eboulements, sent a man to the mast-head to look out for clear water and ships. Neither was to be seen anywhere. Dense masses of ice in every direction. Left the light-ships at 10.30 a.m., and started for a square-rigged vessel just perceived near the east end of the Island of Condre, which appeared to us as being in the neighbourhood of the Traverse. Steamed through the ice round the east end of Condre Island with great difficulty. Reached the south channel, where the ice was so densely packed, that with all her power the *Napoleon* could not proceed further. We were several hours in getting out from among the ice, having in the meantime drifted down about twelve miles. Sent two men to the mast-head, who reported that they saw the masts of the ship before mentioned, with ice in every direction, except a part close upon the north shore. A small channel was open there, caused by the strong north wind, which channel, after great difficulty, we managed to reach. Ran up to St. Paul's Bay and anchored, the wind blowing a perfect gale from the north. The steam was kept up to sustain the vessel in position. Remained here, hoping that a change in the weather would take place, and enable us to render assistance to vessels in distress; but the weather became colder and colder, and ice forming rapidly prevented us from moving.

November 30th.—Thursday. Before daylight, weighed anchor. Weather fearfully cold. River covered with thick vapour—could only see a short distance. Got under weigh at 6 a.m., and steamed up the north channel, hugging the shore, which in several places was clear of ice by the strong north wind. Met immense fields of ice at Cape Millard and North Traverse. Strong squalls from every direction, blowing the spray over the steamer, and covering her with ice. At the east end of the Island of Orleans, got clear of the thickest ice, and worked through floating ice till we reached below Point St. Laurent, where we found the Red Island light ship at anchor. With great difficulty, got hawser attached. Started at full speed to try and get through a large field of densely packed ice, but found it impossible to do so; the *Napoleon*, being forced athwart, was obliged to cut her hawser and leave the light-ship. The same field of ice struck the light-ship, and broke her strong inch and-half cable and set her adrift. She drifted six miles before we could get hold of her again. At 4.30 p.m., reached Indian Cove.

The immense amount and strength of the ice encountered since we left till we returned, I never before experienced. Nothing but the great power of the *Napoleon* saved her from being numbered among the unfortunate vessels now abandoned in the ice. Her supply-pipes became completely stopped up and clogged with ice, so that Mr. Barbour was obliged to fill the engine-room compartment with water for the condensers. The *Napoleon* will be kept in readiness to render any assistance, should a favourable change in the weather take place.

(Signed,)

A. MARMEN, Master.

November 30th.—Arrived at Indian Cove, at 4.30 p.m., where she was kept manned and ready to start at any favourable moment, to assist ships below, abandoned in the ice. On the 3rd December, at the urgent request of yourself and vessel-owners, made active preparations to cut out the steamer at Indian Cove, for the purpose of making an attempt to go to the assistance of vessels. In the meantime, instituted enquiries along the river below, and received information by telegraph from Captain Turgeon and others, at Berthier, that there was no possibility of *Napoleon* getting through the ice opposite that place.

Notwithstanding your frequent orders during the month of December to send down the steamer to aid the ships abandoned in the ice, I could not do so, unless I imperilled the vessel and the lives of the crew. There was no possibility of getting through the ice between Belle Chasse and Crane Island. This I made known to you fully at the time.

The accompanying certificate of shipowners and masters of vessels, some of them abandoned in the ice, will fully sustain me in the action I was forced to take:—

CERTIFICATE.

QUEBEC, 7th July, 1872.

We, the undersigned, have frequently been consulted by Mr. Gregory as to the possibility of rendering assistance to the ships in distress, and have seen no chance whatever of the steamer *Napoleon III.* being able to reach the neighbourhood, without imperilling the lives of the crew and the steamer.

(Signed,)

J. SMITH, Superintendent of Pilots.

A. MARMEN, Master of Steamship *Druid*.

EUG. GOURDEAU, „ *Napoleon III.*

THOS. CONNELL, late „ *Georgia*.

J. D. ARMSTRONG, Harbour Master.

J. DICK, Port Warden.

W. HALL, Master barque *Emigrant*, abandoned in the ice.

COULTHURST & MCPHEE, Agents for ship *Lake Huron*, abandoned in the ice.

J. GILMOUR, Shipowner and Merchant.

April 26th, 1872.—Arrived at Government Wharf from winter quarters.

Movements of the Steamship "Druid."

July 17th, 1871.—Arrived from Cape Ray, having landed supplies for new lighthouse.

July 22.—Left at 3.15 p.m. with supplies for the lighthouses, as far as Point des Monts. Mr. Smith, the Deputy Minister, on board, on an official inspection.

July 28.—Arrived at 2.15 p.m., having supplied the following lighthouses, which were also thoroughly inspected by the Deputy Minister, viz.:—Point St. Laurent, Belle Chasse, Mont du Lac, Crane Island, Pillars, Kamouraska, Brandy Pots, Pilgrims, Red Island lightship and fog whistle, Biquet, Father Point, Cape Chatte, Point des Monts, also the place upon which Lark Islet lighthouse is to be erected.

August 2.—Left at 9.30 a.m., to inspect the spot upon which the wrecked ship *Glanmore* was removed by divers, to clear the channel at Grosse Isle. Returned same evening, at 7 p.m.

August 4.—Left at 2 p.m. for Red Island.

August 7.—Returned at 8.30 a.m. from Red Island.

August 11.—Left at 11 a.m. to put down a new buoy, at Platon. Returned same day at 7.30 p.m.

August 14.—Left at 9.30, a.m. with Superintendent and apprentice pilots, to explore the north channel, River St. Lawrence.

- September 26.—Left at 6 a.m., to visit lighthouses as far as Port Neuf.
- September 27.—Arrived at 1 p.m.
- October 7.—Left at 2 p.m. to put buoy in position, and with men and materials for repairs at Crane Island.
- October 11.—Arrived from Crane Island at 3 p.m.
- October 17.—Left at 3 a.m., for Egg Island and other lights, with Captain Smith and Mr. Tomlinson, Chief Superintendent, on board, to inspect new lights.
- October 26.—Returned from Egg Island, at 6 p.m.
- October 28.—Left at 6 a.m., to replace a buoy carried away in the Traverse. Returned same day at 6 p.m.
- October 31.—Left at 6 p.m., to replace a buoy adrift at St. Anne's, and to place in position the new lightship at her station, head of the Traverse.
- November 2.—Arrived from Traverse at 8 p.m.
- November 17.—Left to take up the buoys, excepting those in the Traverse.
- November 21.—Arrived at noon.
- November 27.—Left at noon for winter quarters, at Blais Booms.
- April 27, 1872.—Arrived from winter quarters, at 1 p.m.
- April 30.—Left, to put down the buoys in the Lower St. Lawrence; also to put in position the Upper and Lower Traverse lightships.
- May 11.—Returned at 10 a.m.
- June 1.—Left at 3 a.m., to tow up the American prize schooner *Enola C.*, seized by the cutter *Stella Maris*, Commander Lachance, for violation of the Fisheries Act.
- June 2.—Returned with *Enola C.*, at 7 a.m.
- June 18.—Left at 11.30 a.m., to place a new buoy at Platon. Returned at 7 p.m. same day.
- June 24.—Left at 11 a.m., to put down a buoy over the wrecked barque *Chryseis*; also to supply Upper Traverse lightship with a boat, and to erect beacons at St. François, Island of Orleans, to assist vessels through the Traverse of the north channel.
- June 28.—Returned at 2.30 p.m.
- In closing my report, I have to thank the gentlemen composing the staff, and the other gentlemen coming under the supervision of this agency, for the prompt and efficient manner in which they have carried out your orders, conveyed through me.

I have, &c.,

J. U. GREGORY,

Agent of the Department of Marine and Fisheries, Quebec.

APPENDIX No. 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for Fiscal Year ended 30th June, 1872.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
John Smith.....	Ten months' salary as Superintendent of Lighthouses.....	1,000 00		
T. Rodrigue.....	Twelve months' salary as Keeper at Portneuf.....	200 00		
L. Lafleur.....	do do do St. Antoine.....	100 00		
James Thurler.....	do do do St. Croix.....	140 00		
Joseph Chabot.....	do do do Point St. Laurent.....	300 00		
E. Thivierge.....	do do do Bellechasse.....	320 00		
J. Painchard.....	do do do Crane Island.....	320 00		
D. Babin.....	do do do Pillars.....	450 00		
T. R. Desjardin.....	do do do Kamouraska.....	320 00		
J. C. Marquis.....	do do do Pilgrims.....	340 00		
J. B. Picard.....	do do do Brandy Potez.....	400 00		
E. Fraser.....	do do do and allowance as Keeper of Red Island.....	660 00		
G. Lindsay.....	do do do do do Green Island.....	800 00		
J. E. Birchard.....	do do do do do Biquet.....	700 00		
I. Pouliot.....	do do do do do Point des Monts.....	800 00		
A. Trudeau.....	do do do do do Cape Rosier.....	800 00		
L. Malouin.....	do do do do do West Point, Anticosti.....	800 00		
C. Pope.....	do do do do do South West Pt. do do	800 00		
L. Gagné.....	do do do do do East Point, do do	800 00		
P. Godier.....	do do do do do Forteau.....	820 00		
M. Colton.....	do do do do do Belle Isle.....	1,060 00		
D. Tétu.....	do do do do do as Keeper of South Point, Anticosti.....	400 00		
D. Lawson.....	Allowance for Engineer in connection with steam fog whistle.....	400 00		
J. Hignell.....	Twelve months' salary as Keeper at Father Point.....	200 00		
J. T. Galle.....	do do do Assistant Keeper at Father Point.....	140 00		
E. Roy.....	do do do Keeper at Paspébiac.....	150 00		
E. Simard.....	do do do Point Rich.....	500 00		
William Cornier.....	do do do Monte du Lac.....	400 00		
A. Savary.....	Salary from 26th April, 1871, to 30th June, 1872, Amherst Island.....	329 16		
R. Rennie.....	do do 19th August, 1871, to 30th June, 1872, River Magdalen.....	260 34		
Joseph Roy.....	do do 7th July, 1871, to 30th June, 1872, Cape Ray.....	600 00		
A. Côté.....	do do 9th August, 1871, to 30th June, 1872, Cape Chatte.....	268 56		
E. Landry.....	do do 4th November, 1871, to 30th June, 1872, Egg Island.....	329 45		
	Three months' salary at Carleton Point.....	50 00		
	Carried forward.....		16,037 51	
			16,037 51	

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for the Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.
	<i>Brought forward..</i>		16,037 51
	<i>Portneuf Lighthouse.</i>		
F. O. Vallerand.....	Chimnies wicks, &c.....	18 40	
L. A. Bonville.....	Services.....	8 00	
P. Lavie.....	Firewood.....	6 00	
L. Gagné.....	Repairs.....	14 80	
E. Chanteloup.....	Lamps, &c.....	140 30	
J. Hamel & Frères.....	Dry goods.....	11 45	
F. Jodique.....	Freight and cart'g.....	6 43	
O. Gernain.....	Ground rent.....	5 50	
Chénic & Beaudet.....	Supplies.....	6 32	217 20
	<i>St. Antoine Lighthouse.</i>		
F. O. Vallerand.....	Wicks, &c.....	2 90	
E. Chanteloup.....	Circular lamp, &c.....	140 35	
G. T. Phillips.....	Supplies.....	1 50	
A. R. Leorgney.....	do.....	60 00	
L. Lafleur.....	Repairs.....	12 32	
Chénic & Beaudet.....	Supplies.....	13 09	290 16
	<i>St. Croix Lighthouse.</i>		
E. Chanteloup.....	Lamps, reflectors, &c.....	140 20	
Hamel & Frères.....	Supplies.....	3 20	
F. O. Vallerand.....	Wicks, &c.....	3 40	
C. DesRoches.....	Ground rent.....	6 00	152 80
	<i>Point St. Laurent Lighthouse.</i>		
Hamel & Frères.....	Dry goods.....	13 55	
F. O. Vallerand.....	Chimnies, &c.....	29 30	
Chénic & Beaudet.....	Supplies.....	4 92	
J. Chabot.....	Repairs.....	113 00	190 77

Bellechase Lighthouse.

Hamel & Frères.....	Dry goods.....	0 88
F. O. Valleraud.....	Chimnies, &c.....	17 30
Chenic & Beaudet.....	Supplies.....	3 58
J. B. Lévesque.....	Repairs.....	25 00
E. Thivierge.....	do.....	1 77
		54 53

Crane Island Lighthouse.

Hamel & Frères.....	Dry goods.....	6 88
F. O. Valleraud.....	Chimnies, &c.....	19 70
L. Gagné.....	Repairs.....	52 89
S. Riédard.....	Stove pipe, &c.....	27 55
Chenic & Beaudet.....	Supplies.....	9 05
Audet & Robitaille.....	do.....	0 83
J. Painehard.....	Boat.....	6 00
		122 90

Pillars Lighthouse.

Hamel & Frères.....	Dry goods.....	9 05
F. O. Valleraud.....	Chimnies, &c.....	31 60
Mrs. Kane.....	Sundries.....	9 25
Chenic & Beaudet.....	do.....	3 33
F. Godbout.....	Boat.....	30 00
		83 23

Kamouraska Lighthouse.

Hamel & Frères.....	Dry goods.....	10 57
F. O. Valleraud.....	Chimnies, &c.....	26 25
T. R. Desjardins.....	Repairs.....	24 00
A. LeBel.....	Labor.....	14 50
A. Marmon.....	Travelling expenses to Lighthouses.....	15 00
Chenic & Beaudet.....	Sundries.....	4 10
		104 42

Pilgrina Lighthouse.

Hamel & Frères.....	Dry goods.....	5 83
F. O. Valleraud.....	Chimnies, &c.....	20 00
J. C. Marquis.....	Repairs.....	236 70
Chenic & Beaudet.....	Supplies.....	1 68
Audet & Robitaille.....	do.....	8 06
L. Gagné.....	Pair of oars.....	1 90
		274 77

Carried forward.....

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>			
	<i>Brandy Pote Lighthouse.</i>			
Hamel & Frères.....	Dry goods.....	4 35		
L. Gagné.....	Repairs.....	18 20		
F. O. Valleraud.....	Chimnies, &c.....	11 95		
J. U. Gregory.....	Sundry supplies.....	29 02		
J. B. Picard.....	Firewood.....	20 00	83 52	
	<i>Red Island Lighthouse.</i>			
Hamel & Frères.....	Dry goods.....	16 13		
F. O. Valleraud.....	Chimnies, &c.....	51 75		
L. Gagné.....	Brick.....	5 45		
Mrs. Kane.....	Sundries.....	9 84		
T. Dechenes.....	Repairs.....	20 00		
H. Danconse.....	do.....	21 00	124 17	
	<i>Green Island Lighthouse.</i>			
Hamel & Frères.....	Dry goods.....	24 85		
F. O. Valleraud.....	Chimnies, &c.....	35 53		
Imperial Government.....	Powder for signal guns.....	400 00		
J. U. Gregory.....	Sundries.....	44 81	575 19	
	<i>Biquet Lighthouse.</i>			
Imperial Government.....	Powder for signal guns.....	400 00		
C. Desrosiers.....	Repairs.....	61 48		
J. F. Bechard.....	do.....	4 00		
F. O. Valleraud.....	Chimnies, &c.....	29 65		
Chénic & Beaudet.....	Sundries.....	2 20		
Andet & Robitaille.....	do.....	27 97		
W. D. Campbell.....	Four years rent at \$24 per year.....	96 00	681 30	

Father Point Lighthouse.

Hamel & Frères.....	12 33
F. O. Vallerand.....	28 60
B. Vogel.....	3 50
Imperial Government.....	104 96
D. Lawson.....	50 00
do.....	20 00
Chénio & Beaudet.....	4 00
Audet & Robitaille.....	11 76
	235 15

Point des Monts Lighthouse.

Hamel & Frères.....	28 55
F. O. Vallerand.....	37 00
Imperial Government.....	460 00
J. Houghton.....	2 00
J. LeBel.....	29 75
E. Picard.....	4 42
Chénio & Beaudet.....	6 80
Audet & Robitaille.....	23 52
	592 04

Cape Rosier Lighthouse.

T. Houghton.....	3 00
J. LeBel.....	85 25
L. Gagné.....	3 50
F. O. Vallerand.....	23 85
Imperial Government.....	460 00
C. LeFevre.....	8 60
W. & R. Brodie.....	8 00
Audet & Robitaille.....	23 52
Chénio & Beaudet.....	14 76
Mrs. Kane.....	1 89
J. U. Gregory.....	5 00
	637 37

West Point Anticosti Lighthouse.

F. O. Vallerand.....	47 20
J. LeBel.....	30 95
T. Houghton.....	2 00
L. Gagné.....	1 70
Grenier & Parent.....	38 75
Imperial Government.....	460 00
Mrs. Kane.....	2 57

Carried forward

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Québec, for the Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	<i>Brought forward.</i>				
	<i>West Point Anticosti Lighthouse.—Continued.</i>				
S. Beaud.	Stove, &c.	18	00		
Chénic & Beaudet.	Hardware.	13	98		
Audet & Robitaille.	Junk.	23	82		
				638	67
	<i>South West Point Anticosti Lighthouse.</i>				
T. Houghton.	Horse shoes.	2	00		
H. Bertrand.	Hand cart.	34	00		
J. LeBel.	Oats, &c.	23	75		
F. O. Valleraud.	Chimnies, &c.	47	70		
C. Garth & Co.	Ventilators.	49	97		
L. Gagné.	Repairs.	2	45		
Mrs. Kane.	Stove pipe.	16	30		
S. J. Shaw.	Drills.	21	10		
S. Beaud.	Lamp protector.	43	00		
Chénic & Beaudet.	Supplies.	13	41		
				253	08
	<i>East Point Anticosti Lighthouse.</i>				
F. O. Valleraud.	Chimnies, &c.	47	00		
Hamel & Frères.	Plate-glass, cloth, &c.	9	05		
T. Houghton.	Horse shoes, &c.	2	00		
H. Bertrand.	Shafes, &c.	2	00		
J. LeBel.	Oats, &c.	23	75		
L. Gagné.	Shingles.	2	90		
Mrs. Kane.	Supplies.	11	12		
Chénic & Beaudet.	do.	10	57		
				108	39
	<i>Forteau Lighthouse.</i>				
F. O. Valleraud.	Chimnies, &c.	19	90		
P. Godier.	Blacksmith's work.	5	80		

Hamel & Frères.....	Reflector cloth.....	28 30
T. Houghton.....	Horse shoes, &c.....	14 00
H. Bertrand.....	Wood sleigh.....	24 00
J. LeBel.....	Oats, &c.....	29 25
Imperial Government.....	Powder for signal guns.....	400 00
Mrs. Kane.....	Supplies.....	5 85
Chénic & Beaudet.....	do.....	9 63
Audet & Robitaille.....	Junk.....	23 52
S. Beaud.....	Stove pipe, &c.....	33 75
<i>Belle-Ile Lighthouse.</i>		632 06
P. C. Dery.....	Collar for harness.....	3 50
F. O. Vallierand.....	Chimnies, &c.....	26 90
Grenier & Parent.....	Hay.....	77 50
J. Levesque.....	Hay cutter.....	21 00
T. Houghton.....	Horse shoes, &c.....	7 00
H. Bertrand.....	Shafts.....	2 00
J. LeBel.....	Oats.....	45 25
L. Gagné.....	Lumber, &c.....	15 98
Imperial Government.....	Powder for signal guns.....	690 00
Mrs. Kane.....	Repairs.....	1 80
Chénic & Beaudet.....	Supplies.....	7 43
Audet & Robitaille.....	do.....	10 71
	Junk, &c.....	27 27
<i>Paspébiac Lighthouse.</i>		936 34
C. Robin & Co.....	Supplies.....	87 73
<i>Point Rich Lighthouse.</i>		
H. Bertrand.....	Hand cart, &c.....	25 00
Hamel & Frères.....	Plate glass.....	7 78
F. O. Vallierand.....	Chimnies, &c.....	13 85
E. Chanteloup.....	Oil cups and burners.....	19 00
Mrs. Kane.....	Supplies.....	9 62
S. Beaud.....	Stove pipe, &c.....	24 95
Chénic & Beaudet.....	Hardware.....	39 58
C. F. Langlois.....	Wood.....	60 00
<i>Monte du lac Lighthouse.</i>		199 79
E. Chanteloup.....	Lamp and reflector.....	34 00
<i>Carried forward.....</i>		

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
<i>Brought forward</i>					
<i>Monte du lac Lighthouse.—Continued.</i>					
F. O. Vallrand.....	Chimnies, &c.....	30	70		
Hamel & Frères.....	Plate glass, &c.....	4	35		
L. Gagné.....	Oars, &c.....	2	25		
Archib & Co.....	Lumber.....	226	91		
S. Peters.....	Repairs.....	28	35		
L. Gagné.....	Wages of mechanics.....	63	92		
L. Aré.....	Provisions.....	26	69		
A. Marrien.....	Horse.....	7	50		
E. Chanteloup.....	Circular burner.....	15	05		
S. Bedard.....	Stove pipe, &c.....	15	35		
Chenic & Beaudet.....	Hardware.....	20	25		
Audet & Robitaille.....	Supplies.....	9	02	482	32
<i>South Point Anticosti Lighthouse.</i>					
F. O. Vallrand.....	Chimnies, &c.....	10	10		
J. Ouillette.....	Firewood, &c.....	26	00		
Ryerson & Powell.....	Royce, &c.....	5	18		
J. Ouillette.....	Freight on supplies.....	300	00		
J. LeBel.....	Flat.....	8	00		
H. Bertrand.....	Hand cart.....	25	00		
E. Chanteloup.....	Oil cups, &c.....	19	00		
A. N. Foster.....	Supplies.....	8	00		
S. Bedard.....	Galvanized Iron.....	24	95		
Chenic & Beaudet.....	Hardware.....	14	92	441	15
<i>Amherst Island Lighthouse.</i>					
H. Bertrand.....	Hand cart.....	25	00		
Hamel & Frères.....	Supplies.....	7	10		
F. O. Vallrand.....	Chimnies, &c.....	10	90		
Carmier & Savage.....	Painting, &c.....	4	60		
J. Cassidy.....	Labor.....	15	00		
do.....	do.....	25	00		

do	One month's salary as Harbor Master.....	4 16	
E. Chanteloup	Circular burners.....	33 25	
do	Oil cups and burners.....	55 00	
Mrs. Kane	Supplies.....	7 61	
S. Bedard	do	24 36	
Chenic & Beaudet	do	11 46	
Wm. Cornier	do	8 55	236 38
<i>River Magdalen Lighthouse.</i>			
Hamel & Frères	Supplies.....	7 78	
H. Bertrand	Cart.....	25 00	
F. O. Valleraud	Lamps, &c.....	13 85	
Mrs. Kane	Supplies.....	9 22	
S. Bedard	Iron pipe, &c.....	24 95	
Chenic & Beaudet	Supplies.....	3 95	84 75
<i>Cape Ray Lighthouse.</i>			
Carvell Bros	Provisions.....	41 75	
Hamel & Frères	Supplies.....	8 38	
F. O. Valleraud	Chimnies, &c.....	10 90	
E. Chanteloup	Supplies.....	19 00	
A. Shee	do	281 44	
Mrs. Kane	do	7 73	
S. Bedard	Coal stove, grates, &c.....	73 75	
Chenic & Beaudet	Hardware.....	11 49	454 44
<i>Cape Chatte Lighthouse.</i>			
Hamel & Frères	Supplies.....	7 78	
F. O. Valleraud	Chimnies, &c.....	13 85	
Mrs. Kane	Supplies.....	9 02	
S. Bedard	Stove, &c.....	18 90	
Chenic & Beaudet	Hardware, &c.....	24 85	
Audet & Robitaille	Cotton duck.....	21 60	100 00
<i>Seven Islands' Lighthouse.</i>			
A. Rivier	Salary as temporary keeper, from 1st July, 1871, to 31st March, 1872.....	375 00	
E. Chanteloup	Lamps, &c.....	290 40	
F. O. Valleraud	Chimnies, &c.....	6 20	
B. Trudell	Hardware, &c.....	9 28	
L. Gagné	Lumber.....	5 45	
<i>Carried forward.</i>			

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	<i>Brought forward.....</i>				
	<i>Screen Islands Lighthouse—Continued.</i>				
Hamel & Frères.....	Dry goods.....	12	22		
Mrs. Kane.....	Tinware.....	9	73		
Chénic & Beaudet.....	Sundries.....	13	32	721	00
	<i>Gaspé Peninsula Lighthouse.</i>				
M. Millar.....	Salary for 1871.....	42	00		
F. O. Valleraud.....	Chimnies, &c.....	2	25	44	25
	<i>Cape Norman Lighthouse.</i>				
F. O. Valleraud.....	Chimnies, &c.....	21	43		
Mrs. Kane.....	Tinware.....	9	62		
S. Belard.....	Hardware.....	24	05		
Chénic & Beaudet.....	Stove pipe, &c.....	30	98		
A. Bertrand.....	Sundries.....	25	00		
A. Straw.....	Pork, flour, &c.....	138	05	256	13
	<i>Egg Island Lighthouse.</i>				
A. Lapointe.....	Service as Temporary Keeper.....	207	00		
C. Plant.....	do.....	207	00		
R. & R. M. Shaw.....	Provisions.....	226	54		
J. Marmen.....	Stone.....	14	00		
T. Andrews.....	Sundries.....	6	45		
J. Warren.....	do.....	10	00	670	00
	<i>Lower Traverse Light Ship.</i>				
Captain Gourdeau.....	Balance of contract for season of 1871.....	800	00		
J. Haws & Co.....	Chain, &c.....	310	05		
Ross & Co.....	Freight on chain, &c.....	13	85		

H. Bruno.....	Life preservers.....	8 00
P. Tolia.....	Repairs.....	72 74
Mrs. Kane.....	Tinware.....	13 90
Chenik & Beaudet.....	Sundries.....	4 62
Hamel & Frères.....	do.....	2 00
Captain Gourdeau.....	Conveyance of self and crew.....	43 90
Bird Rocks Lighthouse.		
J. U. Gregory.....	Wages of Temporary Keeper and Assistant.....	742 32
E. Chanteloup.....	Lamps, chimnies, &c.....	217 50
F. O. Valleraud.....	Wicks, &c.....	13 90
J. B. Trudell.....	Hardware.....	70 35
Chenik & Beaudet.....	do.....	27 35
Gibb, Land & Co.....	Provisions.....	159 90
A. Ramsay & Son.....	Plate polish, &c.....	53 15
Hamel & Frères.....	Dry goods.....	19 87
J. Eden.....	Sundry services.....	20 95
J. Marnen.....	Firewood, &c.....	27 50
D. Davidson.....	Telescope.....	11 34
R. & H. Shaw.....	Provisions.....	379 55
A. Greig.....	Repairs.....	3 90
J. Gray.....	Sundries.....	11 70
J. Bowie.....	do.....	9 74
Daley, Carter & Doolan.....	Sundry work.....	50 00
Upper Traverse Lighthouse.		
J. Landry.....	One month and eight days' wages.....	63 33
H. Lacombe.....	do.....	27 86
H. Norman.....	do.....	20 27
F. Creth.....	do.....	20 27
Lepage.....	do.....	20 27
J. Landry.....	Petty expenses.....	5 40
F. Proulx.....	Conveyance of men.....	13 00
O. Tremblay.....	do.....	16 00
St. Lawrence Tow Boat Company.....	Towage.....	5 00
Vien & Flammoudon.....	do.....	6 00
J. Ladianne.....	Bread.....	4 80
L. Gagné.....	Repairs.....	52 48
Cornier & Dion.....	Sundry supplies.....	9 25
L. Marois.....	do.....	4 48
L. Aré.....	do.....	10 35
Carried forward.....		
		1,269 66
		1,818 92
		280 76

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for the Fiscal Year ended 30th June, 1872.—Continued.

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	<i>Brought forward.</i>				
	<i>Red Island Lightship.</i>				
S. Levesque.....	Balance of contract for navigating light ship.....	1,166	66		
J. Dawes.....	Chain and anchor.....	354	53		
E. Chanteloup.....	Lamps, &c.....	161	01		
Dunning & Webster.....	Cotton waste, &c.....	36	15		
E. Poirier.....	Putting ship in winter quarters.....	85	90		
Quebec Tow Boat Company.....	Towage.....	6	00		
St. Lawrence Tow Boat Company.....	do.....	7	50		
Middleton & Dawson.....	Stationery.....	14	30		
J. Marmen.....	Carting.....	18	00		
C. Wagner.....	Chain.....	10	00		
R. Askin.....	Repairs to rigging.....	15	60		
J. Sampson.....	Carting.....	4	55		
Trudell & Campbell.....	Base pipe, &c.....	21	85		
C. Bertrand.....	Water caulk, &c.....	313	53		
W. Crawford & Son.....	Coal.....	74	75		
C. McNeill.....	Cord wood.....	6	25		
do.....	Repairs.....	81	25		
C. Levesque.....	Cartage of water.....	198	00		
do.....	Allowance for attendance and board, from 1st May to 1st July, 1871, wages and board of extra man and sundry petty expenses.....	264	50		
do.....	Wages of men caulking, &c.....	111	88		
F. O. Valleraud.....	Lamps, &c.....	20	95		
J. O. Donahoe.....	Sundries.....	9	00		
F. Declines.....	Blacksmith's work.....	16	00		
J. R. Trudell.....	Sheet iron.....	32	79		
S. Bedard.....	Repairs.....	93	60		
Chénic & Beaudet.....	Hardware, paint, &c.....	51	77		
Wilson & Tait.....	Labor on coal.....	4	20		
L. Gagné.....	Wages of men making repairs.....	24	22		
E. Coster.....	Wages as Engineer getting ship ready for sea.....	30	55		
S. J. Shaw.....	Sundries.....	4	50		
				3,245	71

Provision Depots.

R. Setter	Twelve month's salary as keeper at Ellis Bay	200 00
B. Bradley	do do do Shallop Creek	200 00
F. Shaw	Pork, &c.	48 00
Nolan & Co.	Provisions	48 30
Chenic & Beaudet	Sundries	2 22
		498 52

Gaspé Harbour Light.

Jos. Eden	One month's salary	10 41
do	Boat hire, and buoy service, &c.	90 25
Capt. Adams	do	22 00
Jos. Eden	Allowance for keeping red light on Gaspé Harbour Wharf for season 1871	42 00
H. Bertrand	Hand cart	25 00
F. O. Valleraud	Chimnies, &c.	11 50
E. Chanteloup	Sundries	9 57
C. Garth & Co.	do	15 00
Audet & Robitaille	do	1 45
		227 18

Gaspé Harbour Light Ship.

J. Asch	Salary as keeper	278 00
F. O. Valleraud ..	Chimnies, &c.	8 75
		286 75

Buoys and Beacons.

L. Gagné	Wages of workmen making repairs	149 80
St. Lawrence Tow Boat Co.	Towing and placing buoys	206 25
Capt. Levesque	Erecting beacon	36 00
Capt. Gaudet	Repairs	20 10
J. O'Reilly	Painting, &c.	22 25
Mitchell & Co.	Hardware, &c.	155 07
J. B. Trudel	do	3 71
Richelieu Co.	Freight	3 38
C. Vezeina	Repairs	162 92
Grenier & Parent	On account of new buoys	400 00
D. & J. McCarthy	Iron, &c.	38 05
R. Setter	Repairs	23 00
G. Richard	Ground rent	6 00
G. Bisset	Sinkers	216 77
H. Jalbut	do	17 91
Archer & Co.	Sundries	32 40
Chenic & Beaudet	do	7 95
J. J. Fovea	Advertising	2 64
		1,504 20

*Carried forward***35,850 60**

APPENDIX 4.—STATEMENT of Expenditure for Maintenance of Lights, &c., below Quebec, for Fiscal Year ended 30th June, 1872.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>		35,850 60	
	<i>General Account.</i>			
F. A. Fitzgerald & Co.....	Coal oil.....		2,371 97	
M. G. Mountain.....	do		252 72	
Provost Brothers.....	Oil tanks.....		331 50	
F. O. Valleraud.....	Wicks, chimnies, &c.....		42 05	
E. Chanteloup.....	do		47 40	
Grenier & Parent.....	Barrels for coal and labor filling		293 22	
Imperial Government.....	Friction tubes		192 19	
J. Aherne Brothers.....	Boiler plunger		100 00	
Chenik & Boudet.....	Canada plate, &c.....		138 05	
Audet & Robitaille.....	do		12 45	
S. Badard.....	Repairs to offices and stores at Quebec.....		108 45	
L. Gagné.....	Repairs		199 30	
J. Marmen.....	Cartage		115 05	
T. Berringer.....	do		15 00	
D. Chénard.....	Freight		325 00	
Allan, Rae & Co.....	do		10 26	
D. Davidson.....	Telescope.....		14 00	
Control Department.....	Powder		76 26	
P. G. Huot.....	Postage		5 00	
J. White.....	Custom house brokerage.....		16 00	
H. Faber.....	Advertising		25 94	
J. J. Foote.....	do		32 00	
A. Côté.....	do		20 16	
J. Carroll.....	and printing.....		82 90	
Middleton & Dawson.....	Stationery		144 82	
L. Brousseau.....	do		30 34	
M. Miller.....	do		35 65	
J. M. Tardevil.....	Painting		13 95	
Mrs. Kane.....	Repairs to tanks, &c.....		28 85	
C. J. Hamel.....	Storage		77 05	
J. Levesque.....	Labor on lighthouse supplies and stores		98 63	
N. Fitzhenry.....	do		160 00	
E. E. Buteau.....	Petty disbursements		100 72	
S. Peters.....	Lumber.....		48 43	
Archer & Co.....	do		15 69	

M. V. Tinscan.....	Sundries.....	2 40
H. C. Austin.....	do.....	5 00
Monad Telegraph Co.....	Telegraphing.....	22 46
Grand Trunk Railroad.....	Freight.....	6 00
J. Eden.....	do.....	23 50
P. Paulin & Co.....	Repairs to clocks.....	7 00
C. Gregory.....	Hay press.....	60 00
J. B. Trudell.....	Hardware.....	17 70
Gibb, Laird & Co.....	Soap.....	73 50
J. Wilson.....	Labor.....	5 00
J. Dugan.....	do.....	5 00
J. R. White.....	Services as assistant in office.....	33 34
N. Turcot.....	Rockets.....	42 00
T. Laird.....	Moorage.....	2 00
G. T. Phillips.....	Sundries.....	2 00
G. T. Carey.....	Subscription to <i>Mercury</i>	6 00
L. G. Chapreau.....	Labor.....	21 00
J. U. Gregory.....	Travelling expenses of self and others.....	118 40
		6,085 40
		41,936 00

APPENDIX No. 5.

REPORT OF THE AGENT FOR NOVA SCOTIA OF THE DEPARTMENT OF MARINE AND FISHERIES, FOR THE FISCAL YEAR ENDED 30TH JUNE 1872.

DEPARTMENT OF MARINE AND FISHERIES,
NOVA SCOTIA AGENCY,

HALIFAX, 20th December, 1872.

To the Honorable P. MITCHELL,
Minister of Marine and Fisheries.

SIR,—I have the honor to report as follows on the operations of this Agency of the Department of Marine and Fisheries, for the year ended 30th June, 1872.

The expense of lighthouse and coast service includes the salaries of superintendent and all lighthouse keepers, of engineers, of fog whistles, and superintendent and staff of humane establishments.

The maintenance during the year of Lights, Fog Whistles, humane establishments, signal stations, buoys and beacons, and the construction and equipment of new lighthouses, fog whistles, &c., has been \$102,580.55, compared with \$87,144.34 in 1871. This increase is chiefly owing to the larger amount spent this year on account of construction. The details of this service will be more particularly referred to under the head of "Construction of Lighthouses," &c.

The supplies this year were carried to the various lights by the schooner *Ella G. McLean*, which was chartered from C. F. Clinch, Esq., at the rate of \$350 a month, the vessel to be provisioned and manned by the Department. This work occupied considerably more time this year than formerly, it being found necessary, in consequence of the increased number of lighthouses, to make two trips to the eastward and two to the westward. On the 24th June, the schooner sailed with a full cargo of oil and supplies for all the new lights, and a portion of the others lying to the eastward of Halifax. Eight days were spent in erecting the lantern and revolving apparatus of the new light at Liscomb. The Superintendent then visited and inspected the new light on Green Island, off Country Harbour; and inspected and supplied White Head Light, Cranberry Island Light and Fog Whistle; inspected and put in operation the new lights at Canso Harbour, and at Jerseyman's Island, near Arichat.

While here, he also selected the site for the proposed new light at Creighton's Head, West Arichat. He then supplied Green Island, Louisburg, Main-à-dieu, Seattarie Light and Humane Establishment, Flint Island and Low Point Lights; inspected and put in operation Sydney Harbour Light, and supplied Black Rock Point, Bird Island, St. Ann's and Ingonish Lights. At St. Paul's Island, owing to the rough weather, the supplies for the main station and lighthouses were landed at Trinity Cove; and, after the North-East Light had been inspected, the vessel was obliged to leave the island in consequence of the stormy weather. The new light at Cheticamp was then inspected and put in operation, and the yearly supplies delivered at Margaree, Port Hood, North Canso and Point Tupper Light stations. Sites were selected for the new lights in the Bras d'Or Lake, Beaver Island and Egg Island were supplied, and the schooner returned to Halifax on the 28th July, thirty-four days from the time of leaving.

On the 31st July the schooner took to Chebucto Head, the light apparatus and supplies, returning on the 1st August. On the 6th of that month she sailed for Seal Island, with five masons and a full cargo, consisting of brick and cement, to rebuild the fresh-water tank in connection with the steam fog alarm at that station; and with lamps and supplies for the new lights at Mahone Bay, Port L'Hebert, Carter's Island and Negro Island; and with the annual supplies for the lights at Pubnico, Shelburne, Gull Rock, Little Hlope and Liverpool. This service was accomplished by the 23rd August.

On the 29th, she sailed for the eastward with oil and supplies, which were duly delivered to several lights in that direction which had not been visited during the first trip. She returned on the 17th September. Two days were occupied in taking supplies to Sambro Island; and, on the 4th October, she again sailed for the westward, carrying the remainder of the supplies necessary for the lights not before inspected. These were all safely delivered, Port Williams, in the Bay of Fundy, being the last light visited. The captain was then directed to take the schooner to St. John, N.B., and deliver up possession to the owner. This was accordingly done, and the charter ceased on the 31st October.

The inspection of the various lights proved highly satisfactory; the keepers were found at their posts, and attentive to the duties of their stations, which, as a rule were found to be kept clean and in good order.

From the particulars which I have given of the movements of the schooner, *Ella G. McLean*, it will be seen that the supplying of the lights this year occupied from 24th June to 1st November; nor does the time appear unreasonably long when we consider the stretch of coast east and west, which, with its seventy-six lighthouses, had to be visited; and this in a small sailing-vessel, whose progress was often retarded for days together by adverse winds.

The number of lights will next year be probably increased by some nine more, not counting the lighthouses and fog whistles now in operation and being constructed on Sable Island; and I fear it will be found very difficult to perform this service satisfactorily by means of a sailing vessel. A steamer of good carrying capacity and fair speed would seem to be almost indispensable for the prompt and efficient inspection and supplying of the numerous lights around the coasts of this Province, as well as performing the work required at Sable Island and the buoy service in numerous localities.

In addition to this, in a sailing vessel, the Superintendent's time is almost wholly occupied during the summer and early autumn months in the inspection of the lights, and he has little time at his disposal for important repairs and other work in widely separated localities, which demand, very often, in the interests of the public service, his personal supervision.

The contract for the oil required for the lighthouses for the present year was awarded to Messrs. F. A. Fitzgerald & Co., of London, Ontario,—the same firm who furnished it last year—at the rate of 23½ cents per gallon. The greater number of lights in operation called for a larger quantity than was supplied last year, and 26,784 gallons were delivered in lots as, follows :—

13th June	- - - - -	12,027	gallons.
18th July	- - - - -	9,788	"
27th "	- - - - -	4,969	"
Total	- - - - -	26,784	"

The cost of which was as follows :—

26,784 gallons at 23½ cents	- - - - -	\$6,294	24
Wharfage, storing, &c.	- - - - -		64 50
Total cost	- - - - -	\$6,358	74

being about \$2,000 in advance of last year.

This oil had undergone the usual inspection and tests, and, from the reports of the lighthouse keepers, appears to give very good satisfaction. Some of the keepers complain of the difficulty, especially with the large circular burners, in regulating the flame, to prevent on the one hand dimness of light, and on the other smoking of the chimnies. The more, however, they become accustomed to these burners, which, with the large-sized reflectors, are doing admirable service in increasing the power and brilliancy of the lights in this Province, the better able they find themselves to obviate and prevent these difficulties.

A large number of repairs have been made during the year, and several important alterations and improvements at some of the lighthouse stations.

A road has been made from the lighthouse at Chebucto Head to the landing slip, about 150 yards in length, and a boat-slip with a capstan for hauling up the boats to a safe place, which was indispensable at this station, has been constructed. This slip is about 30 yards in length, and in making both it and the road, considerable quantities of the rock had to be blasted and cleared away.

At Peggy's Point Station two bedrooms for the accommodation of the keeper and his family, and a store-room for the use of the light have been partitioned off and finished in the upper part of the lighthouse building, which is 26 feet square. This station is very exposed, and the work referred to will add much to the comfort of the keeper and his family.

The Chester Lighthouse was started from its foundation by the gale of the 12th October, 1872, and it was found necessary to secure the building with four wire rope stays, fastened to two sides of the tower, and to eye-bolts in the rock. The efficiency of these stays has been successfully tested by several heavy gales of wind, and the building may now be considered quite secure.

A new porch and steps have been built at Ironbound Lighthouse, and a foundation excavated and walled, and necessary repairs made to the cellar doorway.

At Moser's Island, alterations similar to those at Peggy's Point have been made, by the partitioning off and finishing two bedrooms for the keeper and family, and a store-room to be used in connection with the lantern.

A new lantern has been constructed for Coffin's Island or Liverpool Light, which, together with the plate-glass required for glazing it, has been sent to that station, and will be erected next season. The work would have been performed this autumn had not the unfortunate death of the keeper by drowning, in October last, necessitated a postponement.

The deck of the Light Tower at Little Hope Station has been stripped, repaired, and covered with canvas; an oil store has been built, and repairs made to the building; the lighthouse has also been painted. The much needed work for the preservation of this island has been effected this year by the Public Works Department. A sea-wall of timber has been placed around three of the sides, which, it is confidently expected, will prove a complete protection against the danger to which this island has been exposed of being gradually washed away by the heavy seas, which, on more than one occasion, have placed the lighthouse and occupants in great jeopardy. This station is now in very good order and repair, with the one exception that a new roof to the lantern will be required next summer.

A new deck and lantern base have been constructed at Gull Rock; three sides of the lighthouse tower have been reshingled, the chimney newly topped, a fresh-water tank constructed, and the lighthouse painted, and some repairs done to the interior.

Shelburne Lighthouse was also painted during the season.

The reservoir which had been built at Seal Island for the use of the steam fog alarm at that station, in supplying water for the boiler, became quite useless by the falling in of the brick walls; this occurred too late in the fall to allow of any repairs being made during the year 1871. This season the old masonry was excavated, and a retaining wall of stone, 18 inches thick, constructed. This wall was lined with brick and faced with cement, and every precaution has been taken to prevent a recurrence of

the accident of last year, and to make the structure permanent. It was also found necessary to dig a new drain about 100 yards long, to supply the tank with water, as the old drain would only about half fill it. The boiler at this station has been reset. The want of a sufficient supply of water, caused by the falling in of the reservoir, has proved a serious inconvenience, and been the occasion of a very heavy expense, as water had to be carried to the whistle from a considerable distance, over a road almost impracticable, and at a time of the year when the fog was frequent and heavy. Every year the Department is at a heavy outlay at Seal Island, for the carriage of fuel and supplies from the landing to the light station. A dollar and a half was the lowest rate per ton at which hard coal could be hauled to the engine-house.

I would recommend that an appropriation be made for making a road to the Light station, which will reduce the cost of transport at least one half; and, although requiring considerable expenditure in the first instance, will eventually result in a large saving to the Government.

A new fresh-water tank and an oil store have been constructed at Pubnico light Station, and the house has been painted.

At Yarmouth a large amount of necessary repairs has been made to the dwelling of the keeper and also to the lighthouse, which has been painted. The fog-whistle at this station having been frequently out of repair, in consequence of defects in the boiler, a new boiler was made by Messrs. Flemming & Sons, of St. John, N. B., and placed in position. The fog-alarm is now working satisfactorily.

At Boar's Head the upper part of the lighthouse has been much improved by finishing two bedrooms and a store-room.

Small repairs were made at Annapolis Light Station. The lighthouse is old and in bad repair. The lantern is entirely too small, and the light obstructed by the sash-bars, which divide the seaward side of the lantern into numerous small panes. To insure a sufficient supply of water to the fog alarm recently erected at this station, iron pipes have been laid some distance to a fine spring of water, which is thus brought to the tank under the engine-house.

The sum of \$2,000 voted at the last Session of Parliament for the protection of Parrsboro' Lighthouse is being expended under the supervision of Alexr. McNabb, Esq., C.E., and will be more fully reported on next year when the work is completed.

The tower at Meagher's Beach Station, which has been for some time past in a dilapidated condition, has been thoroughly repaired; the old mortar has been cleaned out and the walls newly pointed with cement. New conductors have been furnished for the fresh-water tank in the base of the building, and the keeper's dwelling, which was badly damaged by the gale of the 12th October, 1871, has been repaired, and a new porch built. Repairs were made to the bridge between the dwelling and lighthouse as well as to the wharf. Two new sills were placed under the oil-store, and the outside of the dwelling-house, and all exterior woodwork of the tower was painted. A quantity of pilings, brushwood, and stone were placed around the light-tower and dwelling-house on the seaward side as a protection to the buildings and beach against the ravages of the sea, especially during high tides. Some further protection of this kind will be necessary during the next season.

An oil store and boat shed have been erected at Devil's Island Station, and the keeper's dwelling has been partly reshingled. A new porch has been built, and a fence erected around the lighthouse property.

The repairs to the boat-house and landing at Egg Island, which were commenced last season, have been completed, and the buildings and premises are in a better condition now than before the storm of last autumn, which caused so much destruction at this station.

At Beaver Island, the bar which was blown down last year has been replaced.

Some small repairs have been made to the base of the lantern at Whitehead, the foundation of the lighthouse having been pointed and the kitchen chimney carried up several feet higher.

New guards and stays have been placed round the lantern at Cranberry Island, a work urgently required on account of the age and insecurity of the old ones. The tank in the whistle-house, which was leaky, has been lined throughout with 1½-inch pine fastened with galvanized nails, and the one in the tank-house placed in good order. A new porch has been built and some repairs made to the engineer's dwelling.

Scatterie Lighthouse has been furnished with a new lantern glazed with plate glass. This lantern, as well as the one provided for Coffin's Island, was manufactured by Messrs. W. S. Symonds & Co., of Halifax. The foundations of the lighthouse and keeper's dwelling have been repaired and re-pointed with cement, the tops of the chimneys rebuilt, a portion of the dwelling re-shingled, the roof of the barn shingled, and repairs made to the store. The new lantern was placed on the lighthouse and secured without extinguishing the light.

At Flint Island some repairs were made to the porch; the parts which were rotten at the lower ends were spliced; the floor was repaired and new door casings put on. One side of the roof of the keeper's dwelling has been re-shingled; the gable ends stripped and repaired, and the building painted.

The keeper's dwelling at Low Point has been repaired by having the tops of the chimneys rebuilt and crocks placed upon them.

At Black Rock Point a road has been made from the lighthouse to the landing, a distance of 160 yards, which had to be cut along a sloping bank, which afforded the only opportunity of making a road on Government property. The buildings at the station have been painted.

The Lighthouse at Bird Island has been painted, and a new hoisting crane erected on the cliffs, as the former one had become rotten and unsafe.

At St. Ann's Beacon a trap-hatch has been made which leads to the lantern, at the head of the stairs leading to the keeper's room; and the floor which was only partially laid last year has been finished.

The mirrors from St. Paul's Island Light, which were removed last year, have been re-silvered and replaced; new guard-irons and stays for the lantern have been made, and a new clock for the revolving light is in course of construction, and will be in readiness for placing in the lighthouse early in the coming season.

The tops of the chimneys at Margaree have been rebuilt, and some repairs made to the foundations; the shingles on the oil store have been re-nailed, the floor repaired, and new benches made for the oil tanks.

The foundation walls at Port Hood Light have been rebuilt, and the building made secure.

The amounts paid for the various repairs and alterations, which have been all enumerated, do not all appear in the detailed account herewith, as many of them were not completed until late this autumn, and the accounts only come down to the end of the fiscal year, 30th June, 1872. Three large circular burner lamps have been supplied to Margaree Light and Green Island, off Arichat. Two more were sent to Ingonish, to be used if occasion should arise, as the small dioptric light at that station was not working very well; and one to Sable Island, as a reserve, at the East End Station.

The following new Lighthouses and Fog Whistles have been constructed during the past year:—

Chebucto Head is a square wooden tower, 22½ feet high, painted white. It is situated at the western entrance to Halifax Harbour, and is a revolving white light, shewing a flash every minute and making a revolution every two minutes. The light was first shown on the 21st August, 1872. The contract for the building was awarded to Mr. Jacob Bowser for \$2,375, and \$1,435.69 has been expended on the illuminating apparatus. The brilliancy and power of this light have been very highly spoken of by masters of vessels entering the port. Mr. Edwin Johnson was appointed keeper at an annual salary of \$400.

Liscomb Harbour Light is a square wooden tower 28 feet high; the building is painted white with the roof red. It is situated at the west side of Liscomb Island and

on the east side of the entrance to Liscomb Harbour. The Light, which is a revolving one, shews alternate red and white flashes every two minutes, and was exhibited on the 10th August, 1872. The contract for the building was taken by Mr. D. S. Ferguson for \$1,395; besides which, \$2,123 98 has been expended on the lantern, revolving apparatus and lamps.

Canso Harbour Light is a fixed red, exhibited from a square wooden tower 28 feet high, built on the north-eastern part of Cutler's Island, Guysboro' County. The contract for the building was given to Mr. F. S. Cunningham for \$979, and \$197.42 has been expended in supplying the illuminating apparatus. The light was first shewn on the 12th July, 1872, and Mr. John Langley was appointed keeper, at a yearly salary of \$200.

Jerseyman's Island is a fixed red light, shown from the tower of a square white building, 28 feet high, and situated at the north end of Jerseyman's Island, near Arichat. This lighthouse was also built by Mr. F. S. Cunningham for the contract price of \$1,200. The lantern and illuminating apparatus cost \$778.95. The light was exhibited on the 10th July, 1872, and Charles C. Boudrot was appointed keeper at an annual salary of \$300.

Cheticamp Light, which is a revolving white, shewing a flash every 45 seconds, and making a revolution every minute and a half, is shewn from a square wooden tower 24 feet high, situated on the south-west end of Cheticamp Island, on the north-west coast of Cape Breton. It is painted white, with a black ball seven feet in diameter on the seaward side. The building was constructed by Mr. A. P. McNeil for \$1,600, and the lantern and illuminating apparatus cost \$1,846.41. The light was first shewn on the 23rd July, 1872, and Capt. Briard was appointed keeper, at a yearly salary of \$350.

Sydney Harbour Light, which is a fixed red, is shown from the tower of a wooden building. It is 20 feet high, and painted white, and situated on the west end of south bar of Sydney Harbour. The contract was taken by Mr. T. M. Leslie for \$482, and the illuminating apparatus cost \$166.18. The light was first shown on the 17th July, 1872, and Mr. George Nunn was appointed keeper, at a yearly salary of \$200.

Negro Island Light is a revolving white and red, shewing alternate red and white flashes every minute. The tower is a square wooden building, 29 feet high, painted white, and situated on Negro Island, in the County of Shelburne. The contract for the building was given to Mr. James D. Coffin for \$970, and \$429 26 has been expended in lamps and revolving apparatus. This Light was first exhibited on the 6th September, and Mr. James McKinnon was appointed keeper at a yearly salary of \$100.

Carter's Island Light is a fixed red, shown from the tower of a square wooden building, painted white, 29 feet high, and situated on Carter's Island, Ragged Island Harbour. The building was erected by Mr. James A. Hayden for \$460, and \$91.80 were expended for lamps, &c. The Light was shewn on the 10th September, 1872, and Mr. James Lloyd was appointed keeper at a salary of \$160 a year.

Port L'Hebert Light, situated on Shingle Beach, on the east side of Port Ebert Harbour, Queen's County, shews a fixed red light. The tower is a square wooden building, 29 feet high and painted white. The building was erected by Mr. G. S. Parker for \$460, and \$91.80 was expended on the purchase of lamps. The light was shown on the 10th September, 1872, and Martin Lisk was appointed keeper, at a yearly salary of \$100.

Mahone Bay Light, situated on Hobson's Nose, Mahone Bay, is a fixed red light. The tower is a square wooden building, painted white, and 29 feet high. Messrs Hopps and Brown were the builders, for \$600, and \$210.17 has been expended on the lamps, &c. The light was shewn on the 12th September, 1872, and Mr. A. Zinck was appointed keeper, at a yearly salary of \$250.

A new lighthouse has been erected on Green Island, off Country Harbor, and would have been in operation early in the autumn, had not the lantern, which was sent from Montreal, been injured to such an extent on its way down as made it necessary to send it back to the manufacturers. A few weeks since, a new lantern was forwarded. It has been sent to the light station, but it will be impossible to have it erected during

the severe weather of winter. The plate-glass is also at Country Harbour, and it is hoped that the light will be in operation early in the spring. The lighthouse is of the same description as that erected at Liscomb, and it is proposed to exhibit from it a fixed white light. The contract for this lighthouse was taken by Mr. James McDonald for \$1,295. The lantern cost \$373.

A steam fog whistle has been put in operation at Digby. It is situated on Point Prim, in the immediate vicinity of the lighthouse. The whistle is sounded eight seconds in each minute, thus leaving an interval of 52 seconds between each blast. It commenced sounding in January last, since which time it has proved itself to be of most valuable assistance to vessels entering the very narrow strait which leads from the Bay of Fundy to the Annapolis Basin, during the frequent fogs which prevail on this part of the coast. The engine and machinery were built by Messrs. Geo. Flemming & Sons for \$1,900, delivered in St. John; and the contract for the building was given to Mr. Timothy Daly, at \$1,750. This whistle is under the charge of the light keeper, who is bound to provide a competent engineer to run the engine.

A steam fog whistle has also been placed on the south-west side of Atlantic Cove, on the south side of St. Paul's Island. It is situated about half a mile from the humane establishment, and is intended to supersede the bell and guns, which have hitherto been used as fog alarms there. The whistle, which was put in operation on the 7th October, 1872, is sounded once every minute for the space of five seconds. The engine was delivered at Chatham, from the foundry of Mr. J. W. Fraser, for \$1,900; and the house was built by Mr. Jacob Bowser for \$1,177. Mr. Charles Stewart was appointed engineer at an annual salary of \$600.

Two lighthouses and two fog whistles have been in course of construction at Sable Island during the past year. They are situated, respectively, at the east and west ends of the island. The contracts for the buildings were taken by Messrs. Carroll and Sinclair, at \$14,700 for the lighthouses, and \$4,400 for the engine-houses.

The fog whistles were contracted for by Mr. J. W. Fraser, Miramichi Foundry, for \$1,900 each, delivered at Chatham.

The light at the east end, which is a fixed dioptric, was first shown on the 2nd December; and the fog whistle at the same station was put in operation on the 5th November. These lights and fog whistles will be more fully described in next year's report, when they will be in operation.

A fog whistle has also been constructed for Brier Island, Digby County, by Messrs. G. Flemming and Sons, of St. John, for \$1,900. The contract for the building was taken by Mr. Daley for \$2,100. This alarm is situated near the Brier Island Light, and will probably be put in operation in a short time.

The following alterations have been made in the keepers of Lights and Fog Alarms during the year :—

Mr. Bragg, who for a long period has faithfully discharged the duties of keeper of Annapolis Light, was superannuated at the age of 63, on the 31st December, 1871, and Mr. R. A. Dakin appointed keeper of the light and fog whistle, at a yearly salary of \$800. Mr. Dakin has since sent in his resignation, and Mr. L. McKay has been appointed his successor, to take charge of the station on the 1st January, 1873, at the same salary.

Mr. Benjamin Rhynard having resigned as keeper of Cross Island Light, Mr. George E. Smith was made keeper, at the same salary, on the 20th June.

Mr. P. Duane, at Green Island Station, having resigned his situation on account of ill-health, his son, William Duane, was appointed keeper; and a gratuity of \$250 was granted to the retiring keeper.

Mr. Reardon, the engineer at Seal Island Fog Whistle, having resigned, Mr. William Hayden was appointed to the vacancy, and has discharged the duties of the situation since 10th October, 1871.

At Cranberry Island Fog Alarm, Mr. John Cormack resigned as engineer; and the duties of the fog whistle, as well as of the lighthouse, are now being discharged by Mr. Haulon, the light keeper.

The keeper of Liverpool Light, on Coffin's Island, Mr. Thomas Eaton, was drowned on the 7th October, while going from the island to Liverpool in a boat. His widow, with an assistant, has been discharging the duties of the station until the 30th November, 1872, when Mr. Wm. Firth was transferred from Little Hope Lighthouse to Liverpool Light, at a salary of \$400, and Mr. Alexander McDonald was appointed to the vacancy at Little Hope Station, at a yearly salary of \$500.

BUOYS AND BEACONS.

A new iron can buoy and moorings have been supplied and placed on Roaring Bull Rock, Cape Canso, to replace the one which was lost last year. The present buoy drifted twice from the shoal this autumn in heavy gales of wind. It was recovered and placed in position, but has since been taken up and stored for the winter.

A new 1½-inch chain of 30 fathoms, and mushroom anchor weighing 1,800 lbs. were made for the iron can buoy at Cerberus Rock, which was placed on the shoal about the last of May. This buoy broke adrift in a gale of wind, about the 2nd December, and was carried to Madam Island Point, where it was recovered, and has been taken care of for the winter. When found, it had only 15 fathoms of chain attached; the anchor and 15 fathoms of chain must have been lost. About the same time in 1871, this buoy drifted from its moorings, and was picked up at Cape Canso. It will be necessary to devise some new method of mooring this important buoy next summer.

An iron can buoy has been placed during the year at the north bar of Sydney Harbour, and a new spar buoy at the south bar.

The buoy at Carey's Shoal, entrance to Great Bras d'Or Lake, has been furnished with a new chain and granite moorings. This buoy broke adrift about the 1st November, but has been recovered and taken care of. I have not yet ascertained whether the moorings were lost.

Four new iron can buoys have been completed for Port Hood Harbour, which are intended to be placed next spring as follows:—

One to mark the shoals to the south of Portsmouth Point; one off the east end of Spithead Shoals; one off the south extreme of Smith's Spit, and one off the west edge of Dean Shoals.

These are all large iron buoys, and will, no doubt, prove a valuable protection in the locality for which they are designed.

In Lunenburg Bay and Harbour, a wooden can buoy was placed in May last, on Sculpin Rock Shoal; two spar-buoys at Long Shoal—one at each end; one spar-buoy at Battery Point Shoal, and one at Head Shoal.

The buoy at Sculpin Rock went ashore about the 10th October in a gale, and was destroyed by the surf on the shore, a portion only of the moorings being saved. A spar-buoy has been sent to Lunenburg to be placed at this shoal for the winter.

Iron can buoys were placed on the Middle Ground at Black Point Shoal, at Lockport. These buoys, however, both broke adrift about the 1st October, and the stone moorings were lost. A new mooring has been supplied, and the buoy replaced at the Middle Ground. The Black Point Buoy has been recovered, but will not be put down again until the spring.

A new iron can buoy was placed last July at Bull Rock, off Lockport.

A new beacon has been erected at Blacksmith's Beach, North-west Spit, Negro Island, to replace the one destroyed in the gale of the 12th October, 1871.

Two spar-buoys have been placed at Budget Rock—one at each end of the shoal; one spar-buoy at Grog Rocks; one at Bartlett's Ledge, and one off John's Point.

A large number of buoys, principally spar-buoys, which have not been specially referred to, have been kept in good order, as heretofore.

The humane establishment at Sable Island has been kept up as usual, the cost of this service for the past year being \$6,600.

Two wrecks have occurred here during this year. The brigantine, *Black Duck*, of and from Quebec (Elisha Leander, Master), with a cargo of lumber, scantling, &c., bound to Bermuda, went ashore between three and four miles to the westward of the principal station on the north side of the Island, about two o'clock, a.m., on the 1st November, 1871. The captain and crew were all saved, and brought to Halifax in the Government steamer *Lady Head*. A portion of the sails and rigging was saved, and brought to Halifax, and sold for the benefit of all concerned.

About one-half of the cargo was saved in a damaged condition; and, as the expense of bringing it from the Island would have been greater than the probable proceeds of its sale at Halifax, the Government became the purchasers at a fair valuation, and the lumber has since been found serviceable for building purposes and repairs on the Island. The proceeds were apportioned in the usual manner.

On the 20th May the American schooner *Boys*, of Marble Head (Martin, Master), with salt and fishing supplies, bound for the Banks, went ashore on the south side in a dense fog. All hands were saved, and taken off the Island in a fishing vessel. The materials which were saved were brought from the island a few weeks since, and have been sold for the benefit of all concerned.

The farming operations on Sable Island have been progressing favorably during the year. A large quantity of potatoes and other root crops have been raised, and the cattle sent down last year are doing very well. It will require some years fully to test the agricultural capabilities of the Island, but the indications, from the efforts already made in this direction, are all of a very favorable character; and I think, before long, we may look to the Island supplying itself with all the meat and vegetables required for the support of the inhabitants, as well as to cash receipts from the sale of salt beef packed on the Island. It would be unwise, however, to calculate on very much from this source, as the farming operations are as yet somewhat of an experiment.

I understand it is probable that the Department may make some re-adjustment of the staff of the Island during the current year, made necessary in consequence of the lighthouses and fog whistles in course of erection there. The amount of wages paid the men at present is very small, being \$150 per annum each, or about 40 cents per day. I think if the rate was increased, the Department would be able to obtain a better class of men, as it is difficult at present rates to find good men willing to engage. I would also suggest that the pay of the outpost keeper, whose position is a very responsible one, should be higher than that of the rest of the staff.

The following wrecks have occurred at St. Paul's Island:—

On 8th December, 1871, the Superintendent wrote (the letter was not received until June following) that he thought that I would be justified in reporting that a timber-laden vessel drifted on the rocks, on the north side of St. Paul's Island, on the night of the 29th November, during a violent snow-storm: the wind north-west, and blowing a tremendous gale. She was supposed to be the barque *Emperor*, of London, from the circumstance that a life-buoy was picked up where the vessel struck with that name on it in large black letters. Nothing of the wreck was to be seen but floating timber and broken spars; no signs of the crew. Subsequently, on the 3rd January, the Superintendent visited the spot and saw a quantity of iron knees and chains and anchors on the bottom, and the body of a man lying with them. The corpse was brought to the surface and buried at Trinity Cove. After the discovery of the wreck, the men were kept every day for a week trawling near the place; but no trace of the crew could be discovered, and no doubt they had all met a watery grave.

The steamship *Adalia*, of London, ran ashore on the 20th July, during a heavy fog. The Superintendent reports that the night was clear and starry up to half-past two o'clock, when the fog began to approach the Island. He sent a man to fire the cannon at 10 minutes to three; at sharp four, another gun was fired; and, a short time after, thinking he heard a faint whistle, he sent a man back at once and fired another gun.

He then started in the boat, and had to keep close to the rock as the fog was so dense, and he found himself right underneath the ship's bow before he could see her. He remained until the passengers got into the boat, when he guided them ashore. The captain did not hear the first gun, but the second was simultaneous with the striking of the ship. For eight days the passengers were taken care of in the Sailor's Home; the cabin passengers, captain and officers occupied the house of Mr. McLean, the Superintendent, who was zealous and attentive in ministering to those whom this unfortunate accident had thrown upon his hands. They were subsequently taken off the Island by the steamer *Pictou*. A considerable portion of the cargo of this vessel has been saved; the vessel herself is a complete wreck.

It is confidently hoped that the steam fog alarm recently put in operation at St. Paul's will be the means of warning vessels of their proximity to its rugged and dangerous shores, and thus save them from destruction. A dépôt of clothing and provisions is kept as usual at the humane establishment for the relief of shipwrecked persons.

No wrecks have occurred at Scattarie Island this year, and the humane establishment has been kept up the same as usual.

The expenditure for the steamer *Lady Head* has been much increased by the very heavy repairs which were commenced in April and finished towards the end of July. The ship was entirely new topped; all the decks, stanchions, rails, bulwarks and upper deck cabins were renewed, and the ship, together with the boiler and engines, were placed in a substantial state of repair and good condition.

I have, &c.,

H. W. JOHNSTON.

APPENDIX NO. 5.—STATEMENT of Receipts of the Nova Scotia Agency of the Department of Marine and Fisheries, on account of Casual Revenue deposited to Credit of Receiver General, during the Fiscal Year ended 30th June, 1872.

	\$ cts.	\$ cts.
<i>Sable Island.</i>		
Sale of Ponies	257 61	
Sale of Cranberries.....	458 67	
Proceeds Black Duck.....	249 81	
		966 09
<i>Lighthouse and Coast Service.</i>		
Sale of empty Oil Casks, &c		127 20
<i>Dominion Steamers.</i>		
Use of Steam Pump and freight on materials, Black Duck ...		325 00
		1,418 29

APPENDIX No. 5.—STATEMENT of Expenditure of the Nova Scotia Agency of the Department of Marine and Fisheries, for maintenance of Lights, &c. for the Fiscal Year ended 30th June, 1872.

		\$	cts.	\$	cts.	\$	cts.
MAINTENANCE OF LIGHTS, ETC.							
F. Gregg	Salary as keeper of Annapolis Light.....					230	00
R. A. Dakin	do					285	71
do	Salary as temporary keeper, Annapolis Light.....					100	00
J. Tait	Repairs and supplies.....					35	21
K. Young	Twelve months' salary as keeper of Apple River Light.....					350	00
J. S. Smith	do					400	00
do	do					380	00
J. Crotty	do					7	50
H. M. Kuggles	do					360	00
do	do					400	00
J. Sutherland	do					2	50
do	do					460	00
N. Campbell	do					20	00
do	do					420	00
J. Doane	do					69	87
do	do					480	00
M. Robichau	do					16	50
D. Morrison	do					500	00
D. Condon	do					350	00
do	do					480	00
B. Ryland	do					8	20
do	do					460	00
A. Ross	do					57	85
do	do					400	00
A. Munroe	do					32	00
do	do					400	00
B. Faulker	do					97	10
do	do					380	00
W. Condon	do					181	71
do	do					500	00
do	To reimburse him for loss of property by storm.....					150	00
J. Hanlon	Twelve months' salary as keeper of Cranberry Island.....					1,657	83
do	Repairs and supplies.....					472	00
do	do					224	40
Carried forward.....							

APPENDIX 5.—STATEMENT of Expenditure of the Nova Scotia Agency of the Department of Marine and Fisheries,
for maintenance of Lights, &c. for the Fiscal Year ended 30th June, 1872.—Continued.

			\$	cts.	\$	cts.	\$	cts.
		<i>Brought forward</i>						
		MAINTENANCE OF LIGHTS, ETC.—Continued.						
J. White	Twelve months' salary as keeper of Fish Island	.....	280	00				
S. T. N. Sallon	do	.....	240	00				
B. Haney	Repairs and supplies	.....	10	00				
J. Costé	do	.....	400	00				
	Flint Island	.....	233	76				
	Repairs and supplies	.....	232	00				
P. Duain	do	.....	20	00				
	Arichat	.....	500	00				
	Repairs and supplies	.....	20	03				
J. Hayden	do	.....	400	00				
	Green Island	.....	194	49				
G. S. Peart	Repairs and supplies	.....	220	00				
H. G. Bennett	do	.....	1	00				
C. E. Rathburn	do	.....	230	00				
S. C. Campbell	do	.....	359	00				
R. Wolf	do	.....	1	70				
C. Firth	do	.....	360	00				
J. A. Ernst	do	.....	15	00				
L. Kavanagh	do	.....	500	00				
W. Early	do	.....	244	97				
C. J. T. Fox	do	.....	240	00				
D. George	do	.....	23	90				
D. Moser	do	.....	460	00				
H. B. Lowden	do	.....	230	00				
A. Hogg	do	.....	19	77				
	do	.....	480	00				
	do	.....	69	48				
	do	.....	400	00				
	do	.....	794	41				
	do	.....	450	00				
	do	.....	460	00				
	do	.....	460	00				
	do	.....	142	03				

J. Power	do	do	Port Hood.....	280 00
J. M. Dunn.....	do	do	Port William.....	260 00
M. Amaro.....	do	do	Pubnico.....	240 00
			Repairs and supplies.....	37 00
E. Perry	do	do	Port Mcdway	200 00
			Repairs and supplies.....	6 55
J. McDonald	do	do	Point Tupper	200 00
			Repairs and supplies	11 94
J. Mundell	do	do	Sand Point	400 00
R. A. Spencer	do	do	Spencer's Island	100 00
J. McLean	do	do	Scottie Island	820 00
			Repairs and supplies.....	260 00
J. C. Crowell.....	do	do	Seal Island.....	480 00
			Repairs and supplies	0 50
J. D. Sutherland.....	do	do	Westport.....	300 00
			Repairs and supplies	31 50
J. G. Peters.....	do	do	Low Point	460 00
			Repairs and supplies.....	2 85
G. McKay	do	do	North Canoe	460 00
			Repairs and supplies.....	14 85
R. F. Bent	do	do	Pugwash	200 00
			Repairs and supplies	260 13
R. Gilkie	do	do	Sambo	400 00
			Repairs and supplies.....	355 20
E. Horne	do	do	Peggy's Point	300 00
			Repairs and supplies	176 74
L. McDougall.....	do	do	St. Paul's, S. W.	420 00
			Repairs and supplies.....	359 00
T. Eaton	do	do	Liverpool	460 00
			Repairs and supplies	287 55
J. Keefe	do	do	Repairs and supplies	75 00
J. Buck	Salary, 1st July to 30th September, 1871, Main-à-dieu.....			225 00
	do 1st October, 1871, to 30th June, 1872, Main-à-dieu.....			48 75
	Arrears, Main-à-dieu.....			138 92
	Twelve months' salary as keeper of Sisiboon.....			200 00
B. Amaro.....	do	do	Parraboro'	340 00
W. Armstrong	do	do	Repairs and supplies	2 90
J. Morrison	do	do	St. Ann's	100 00
			Repairs and supplies	64 37
N. C. McKeen.....	do	do	Margaree	400 00
			Repairs and supplies	140 80
J. Atwater	do	do	Pomket Island.....	360 00
			Repairs and supplies	41 85
C. Stalker	do	do	Shelburne.....	480 00
			Repairs and supplies	15 03
Humane Establishment Staff	Allowance to keep light St. Paul's, N. E.			50 00
			Repairs and supplies.....	170 08
N. Smith	Twelve months' salary as keeper of Burntcoat.....			260 00

Carried forward.

<i>Cranberry Island Fog Whistle.</i>			
J. Cornack	Salary from 9th September, 1871, to 30th June, 1872.....	393 62	
J. R. Carvell	On account of contract for rebuilding.....	4,000 00	
J. Cornack	Allowance for rent.....	35 00	
Co Fraser, Reynolds & Co.....	Anvil and forge.....	91 57	
J. Hunter	Lead pipe, &c.....	118 92	
W. M. Smith	Steam whistle.....	72 63	
W. S. Symonds & Co.....	Coal.....	82 45	
H. W. Johnston.....	Supplies.....	164 80	5,428 99
<i>Humane Establishment, Scatarie.</i>			
M. & F. Eagan	Drugs.....	23 48	
Lordly & Stimpson.....	Supplies.....	121 04	144 52
<i>Humane Establishment, St. Pauls.</i>			
D. J. McNeil.....	Twelve months' salary as Superintendent.....	800 00	
Do	Wages of boatmen	840 00	
H. W. Johnston	Supplies.....	225 75	1,825 75
<i>Signal Station.</i>			
J. K. Gould.....	Expenses, from 1st July, 1871, to 31st March, 1872	950 11	
<i>Buoys and Beacons.</i>			
W. McNeil.....	Buoy service, Port Hood.....	25 00	
J. White	do Tusket River.....	46 50	
M. Amero	do Publico Harbor	20 00	
J. Hayden	do Lockport	15 00	
R. McNeil	do Merigonish Harbor	10 00	
G. S. Peart	do Guysboro'	20 00	
J. A. Fraser	do Carey's Shoal.....	63 00	
J. Kendrick	do Harrington Harbor.....	37 45	
A. W. Begelow	do Graine & Rock.....	120 00	
J. Kavanagh	do Lunenburg.....	30 00	
M. Walsh	do Cerberus Rock.....	67 00	
C. Muggah	do Sydney Harbor.....	40 00	
H. Peck	do Canoe.....	100 00	
D. Marchand	do Arichat.....	62 50	
W. Nickerson	do Port La Tour.....	35 00	
H. G. Pike	do Pugwash.....	20 00	
D. Waddle	do Dartmouth.....	20 00	
<i>Carried forward.....</i>			

APPENDIX 5.—STATEMENT of Expenditure of the Nova Scotia Agency of the "Department of Marine and Fisheries," for maintenance of Lights, &c. for the Fiscal Year ended 30th June, 1872.—*Continued.*

		\$	cts.	\$	cts.
<i>Brought forward.</i>					
<i>Buoys and Beacons.—Continued.</i>					
W. Young	Buoy service, Lunenburg Harbor.....	117	79		
W. S. Symonds	do Buoy anchors, fittings, &c.....	244	93		
S. & J. Cohen	do Storage of buoys.....	10	00		
W. McLean	Making and placing buoys at Shellharne.....	377	25		
Do	Erecting a beacon at Lockport.....	51	95		
Black, Bros & Co.	Chain	50	65		
P. Pait, jun.	New buoy	27	50		
A. McKay	Altering buoys.....	131	00		
G. R. Taylor	Iron buoy	95	00		
G. F. Cotton	New bell buoy, buoy moorings, &c.....	837	22		
Fraser, Reynolds & Co.	Chains, &c.....	268	59		
D. Whitman	Freight	9	00		
J. W. Wilson	do	9	10		
D. Waddle	Towing.....	18	00		
J. Tait	Iron work.....	3	68		
Capt. Townsend	Freight.....	2	00		
G. Wilson	Visiting Wesse's ledge buoys.....	6	00		
				3,040	51
<i>General Account.</i>					
J. H. Kendrick	Salary as Superintendent of Lights.....	1,903	00		
E. Chanteloup	Lamps, reflectors, &c.....	563	66		
P. Prows Bros	Oil tanks.....	264	00		
F. A. Fitzgerald & Co.	Oil.....	293	23		
S. Crawford	do	70	99		
W. Hare	do	242	20		
Union Glass Co.	Chimnies, &c.....	575	75		
J. Melvin	Cooperage, &c.....	11	90		
S. W. Marvin	Oil pumps, supplies, &c.....	133	05		
Davis & Co.	Rent of dock and stores.....	722	53		
J. Hays & Co.	Plate glass, paint, &c.....	2,139	25		
W. S. Symonds & Co.	Lanterns, &c.....	575	50		
M. F. Eager	Supplies.....	173	12		
Fraser, Reynolds & Co.	Hardware, glass, rope, &c.....	106	96		

F. D. Corbett & Co.	Freight.	11 43
W. Jack	do	4 16
J. F. Phelan	do	24 18
Capt. N. White.	do	7 83
D. Whitman.	do	2 00
W. Young	do	3 12
G. P. Black	do	5 20
F. W. Fishwick	do	47 22
A. Livingston	do	2 70
N. S. Railroad	do	65 20
J. A. S. DeWolfe & Son	do	4 56
C. Keough	do	1 60
J. Koold	do	51 19
J. P. Mott	do	112 42
J. J. Bentley	do	96 00
W. M. Smith	do	169 40
R. G. Fraser	do	5 00
J. Raye	do	43 10
Lieut. Colonel T. Wily	do	31 20
R. P. Hart	do	42 50
E. A. Peters	do	5 50
O. C. Herbert	do	24 00
A. Robinson	do	7 00
J. Findlay	do	4 00
Smith & Kay	do	27 40
J. R. Bent	do	11 45
J. McDonald	do	5 10
E. G. W. Greenwood	do	87 20
Davis & Co.	do	34 99
J. G. Black	do	3 20
A. Woodgate	do	79 76
R. Huntington	do	13 00
Citizen Publishing Co	do	14 00
Willia & Davis	do	7 92
A. Grant	do	9 75
N. V. Bryden	do	1 50
W. Elder	do	5 00
H. W. Johnson	do	4 31
H. Harshorne	do	40 00
J. S. Mitchell	do	43 50
C. Niel	do	439 18
T. P. Jost	do	133 33
do	do	7 75
J. H. Kendrick	do	321 44
S. Cunard & Co.	do	11 58
E. Cann	do	3 80
A. Munroe	do	1 19
J. Hanlon	do	2 50
G. Bent, Jun.	do	9 00
	Carried forward	

APPENDIX 5.—STATEMENT of Expenditure of the Nova Scotia Agency of the Department of Marine and Fisheries, for maintenance of Lights, &c. for the Fiscal Year ending 30th June, 1872.—Continued.

		\$	cts.	\$	cts.	\$	cts.
	<i>Brought forward.</i>						
	<i>General Account.—Continued.</i>						
H. Haverstock	Packing cases	60	00				
R. Abbott	Repairing blocks	1	25				
C. N. Bell	Truckage	12	25				
W. H. Tully	Line boards	76	66				
J. Melvin	Packing cases	51	20				
M. Phelan	Storing coal	9	00				
J. Mitchell	Services and expenses in connection with wreck, entrance to Yarmouth Harbor	149	40				
W. Muirhead	Charter of schooner <i>New England</i> , for season of 1871	2,600	00				
Bank of Montreal	One-quarter per cent. to remit do	6	50				
C. F. Clinch	Charter of schooner <i>Ellis G. McLean</i> delivering supplies	1,140	32				
G. W. Cook	Wages of crew	945	68				
do	Disbursements	91	60				
Lordly & Stimpson	Provisions	132	42				
J. Hilfer	Ballast	10	80				
P. Grant & Co.	Bedding	15	80				
A. Stephen & Son	Lamps	16	50				
W. H. Tully	Doekage	29	90				
do	Wood	9	50				
Kent & Melvin	Water	3	65				
J. Wadwell & Sons	Beef	24	19				
A. & H. Creighton	Charls	8	12				
E. G. & C. Hayner	Wharfage	1	35				
J. Dillon	Sundries	30	00				
J. J. Scriven	Bread	4	08				
S. Tufts	Provisions	86	79				
Mitchell & Co.	Supplies	445	66				
J. H. Harding	do	10	05				
E. Billman	Fish	15	68				
Coughlan & Co.	Beef	29	60				
H. W. Johnston	Allowance to boatmen, Seal Island	120	00				
do	do	80	00				
		15,380	11				
		63,254	33				
		1,969	14				
	<i>Less amount transferred to Construction Account.</i>						
						61,255	19

APPENDIX 5.—Statement of Expenditure on account of Sable and Seal Islands Humane Establishments, for the fiscal year ended 30th June, 1872.

S. P. Dodd	Twelve months' salary as Superintendent	572 00
do	Twelve months' wages of staff	2,202 89
Fraser, Reynolds & Co	Hardware, rope, &c.	315 48
J. Mowat	Soap and lime	13 53
K. Currie	Live stock	643 55
Kent & Melvin	Water for live stock	2 40
E. Felepas	Truckage	8 19
Ocean Marine Insurance Company	Insurance on supplies	4 75
W. M. Smith	Empty barrels	48 80
J. Melvin	do	59 50
J. D. Nash	Pig feed	178 70
Capt. P. A. Scott	For purchase of oats	46 20
C. Neil	Laborer in connection with supplies	24 25
W. H. Tully	Shingles	52 50
W. Murray	Hay cart	62 00
J. Hogan & Sons	Lumber	88 60
A. Hawk & Co.	Balance on rocket apparatus	88 24
D. H. Pitts	Rocket gear	10 52
F. Foham	Water casks	8 50
K. E. Peters	Horse slings	10 90
W. F. Ead	Surf boat	100 00
J. J. Scriven	Medicines	61 73
G. Piers	Hard bread	42 00
J. Whitman	Empty bags	19 00
J. H. Hamilton	Oats	50 00
R. Carver	do	111 50
W. H. Nauffts	Potatoes	21 00
do	do	63 50
J. McKay & Co.	Wages of men saving cargo of <i>Wild Duck</i>	49 00
W. S. Symonds & Co.	Lumber	456 00
A. Robinson	do	11 63
J. McDonald	Stove pipe, &c.	41 80
H. Cook	Iron work	5 40
H. W. Johnston	Willow cuttings	5 00
Chipman Bros	Conveyance of men	117 00
Lordly & Stimpson	Prought	12 00
G. S. Yeats	Provisions	18 00
J. Howser	Life belts	188 34
S. W. Marrow	Carpenters work	41 56
J. Crossland	Sundries	8 15
	Provisions	8 35
		736 63
		6,607 15

DEPARTMENT OF MARINE AND FISHERIES,
2nd January, 1873.

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

APPENDIX No. 6.

REPORT OF THE NEW BRUNSWICK AGENCY OF THE DEPARTMENT OF MARINE AND FISHERIES FOR THE FISCAL YEAR ENDED 30TH JUNE, 1872.

AGENCY OF DEPARTMENT OF MARINE AND FISHERIES.

ST. JOHN, NEW BRUNSWICK,

24th December, 1872.

SIR,—I have the honor to report upon the operations of this agency of the Department, for the year ended the 30th June, 1872.

LIGHT HOUSE AND COAST SERVICE.

A detailed statement of the different lighthouses, and cost of maintenance, will be found annexed to this report.

The number of lighthouses in operation, under the management of this agency of the Department during the period above stated, is thirty eight.

The total amount of maintenance, including the salaries of the keepers, and that of the Inspector, and his travelling expenses, together with the salaries of the keepers of the two fog alarms—one at Partridge Island and the other at Point Lepreaux—was \$20,221 68.

The names of the lighthouses visited by the Inspector, with his report on those lighthouses, will also be found annexed.

The repairs and improvements in connection with the different lighthouses have had the careful supervision of the Inspector, and only such sums were expended as the strictest economy would justify in the interest of the public service.

During the winter, Mr. Tomlinson, the General Superintendent of Lighthouses for the Dominion, visited a number of the stations, and gave valuable assistance in adjusting the machinery at the lighthouse on Southern Wolves Island. This light is now reported as one of the strongest and most brilliant in the Bay of Fundy, and has proved of the greatest service to vessels navigating the Bay.

The beacon light in the Harbor of St. John, and that on Partridge Island at its entrance, were also visited by Mr. Tomlinson, together with the lights on Bliss Island, Head Harbour, St. Andrews, Cape Enrage and Cassie's Point, the condition of all of which were, I presume, regularly reported to you.

PARTRIDGE ISLAND.

The burners in use at this lighthouse are No. 2 small sized flat-wick, which were considered too small for such an important station as that of Partridge Island. New lamps were therefore sent from Montreal, with round-wick burners of the largest size; these on arrival here were sent to that station, but owing to Mr. Tomlinson, who had this matter in hand, being called to attend to duties in another agency, no change was made until a period subsequent to the date to which this report is brought down. When William Smith, Esq., your Deputy, visited this agency of the Department, he, accompanied by the writer and William M. Smith, Esq., the Inspector of Steamboats, went to Partridge Island, and directed that the largest size burners both of the flat and round wicks should be substituted in place of the No. 2 flat-wicks then in use. This change was accordingly

made, and nine large mammoth flat-wicks, together with three round-wicks of the largest size are now in use at Partridge Island Lighthouse, giving a light of much greater power and brilliancy. The writer has requested the captains of the steamers regularly plying in and out of this harbor, to report their views respecting the recent change of lamps for the information of the Department.

BEACON LIGHT.

The beacon light has been in charge of Mr. Elijah Ross for some years past. At the end of the present fiscal year, Mr. Ross tendered his resignation (with a view of embarking in a manufacturing business in Carleton) which resignation was regularly brought to your notice, and, until his successor shall be appointed, Mr. Timothy Clarke is in charge. Mr. Clarke keeps good lights, and sees that the buildings and surroundings are in proper repair. The large bell purchased by the department to be sounded during foggy weather has been hung, and is now sounded at intervals in thick weather in response to the whistle of steamers or call of vessels seeking their way into the harbor.

The length of time which the fog frequently prevails in this bay and harbor, makes it necessary that this bell be rung by some simple machinery, it being such an important guide into the harbor in thick weather.

BLISS ISLAND.

The light at Bliss Island has been well maintained, and gives general satisfaction to the steamers and numerous vessels trading along the coast.

The signal gun formerly in use at Point Lepreaux, has been transferred to this station, and has proved an important help to the steamers approaching the land.

The gun was the property of the International Steamboat Company, who, on being apprised of the wish of the Department to have it removed from Lepreaux to Bliss Island, very generously tendered it for that purpose, and it is now fired during foggy weather. A fog trumpet is also blown in response to the whistle of steamers at short intervals. The trumpet is highly spoken of by Captain Belmore, and Messrs. Lunt & Co., have, in reply to my enquiries, addressed to me a letter, of which the following is a copy, with reference to Bliss Island light, and fog trumpet :—

ST. JOHN, November 29th, 1872.

J. H. Harding, Esq.,
Department Marine and Fisheries,
St. John.

SIR,—In regard to the light on Bliss Island, I have much pleasure in informing you that I believe the same has been efficiently kept. The gun has been promptly fired, and the air trumpet sounded during foggy weather, all of which has been of material benefit to our steamer the *City of St. John* in navigating that portion of the Bay of Fundy.

I am &c.,

(Signed,) ENOCH LUNT.
R. G. LUNT.

From conversation had with Captain Belmore, I believe this fog trumpet would be an important acquisition to the other lighthouses in the bay, where no regular fog alarm is stationed, and where vessels require to approach near to the shore to make an entrance into the harbor, or through some narrow passage leading into the same. A suitable building for storing the oil is much needed at this station.

HEAD HARBOR.

The lantern of the lighthouse at this station was reported by the keeper as requiring repairs, to prevent the drops of rain during stormy and windy weather beating through the crevices and breaking the chimneys. The embankment near the lighthouse was being

washed away by the tide and sea breaking against it, until there remained only some eight feet to the foundation walls of the lighthouse. A breastwork was therefore directed to be built to prevent the further encroachment of the tide.

The storing house requires to be shingled and other repairs which the Inspector will attend to. The keeper Mr. Snell resigned his position here which Mr. Henry McLaughlin now occupies.

ST. ANDREWS.

St. Andrews Lighthouse required but trifling repairs during the past year, but the beacon blocks were in danger of being swept away. Those repairs ordered by you were attended to, and the cost of the same will appear in the account for the next fiscal year, amounting to \$221.96.

POINT LEPREAUX.

The light at this station is well maintained, the importance of the situation being in the immediate track of all the steamers and coasting vessels especially. It is deemed important to have the burners in this lighthouse also changed from the No. 2 small flat-wick burners, to the mammoth burners, which will increase the power of this light, it being next in importance to that of Partridge Island at the entrance to the port of St. John.

Swallow Tail and Gannet Rock Lighthouses require repairing, and also the approaches or landing slips, as they have been injured by heavy storms. A small sum was included in the estimates for the fiscal year of 1872 for this purpose.

In a snow storm at the north end of Grand Manan, the *Sarah Sloan* was wrecked, and out of a crew of eleven, only one man was saved, Charles Turner, a man of colour. He was severely frost bitten, and was brought to this city by Captain Gaskill, and placed in the hospital, where it was found necessary to amputate both feet. The operation was successfully performed, and the patient, it is expected, will be able to move about by artificial feet supplied to him.

QUACO LIGHT.

This light has been increased by substituting the mammoth flat-wick burners instead of the No. 2 flat-wick, and the change has been very favorably reported upon by the inhabitants of Quaco.

GRINDSTONE ISLAND.

This lighthouse, though not having the largest burners, has the best building of any lighthouse in the bay, and everything is kept in the best order. It is contemplated to change the burners here and substitute the large flat-wick or mammoth burner. No expense has been incurred at this station during the past year beyond that for ordinary maintenance. The late keeper, Mr. Clarke, was obliged to give up his situation here, owing to the ill health of his wife.

CAPE ENRAGE.

No expenditure of any account beyond that of the ordinary maintenance has been incurred on the lighthouse here. But I would wish to bring to notice the very uncomfortable building in which the keeper resides. The building was formerly the old lighthouse. The rooms are very small and uncomfortable, and could not be used at all but for the addition or porch attached. The inspectors have not advised any repairs upon this old building for some years past, considering that the amount required to make it even a passable residence, would erect a new and suitable building. The necessity of this is now the more felt, as the severe gales during the last winter have all but demolished the whole structure.

MACHIAS SEAL ISLAND.

There have been some necessary alterations made in the chimneys at this lighthouse, as the keeper did not consider the former arrangement of the flues safe. There have also been some other needed repairs made. The keeper now reports that the change has given very great satisfaction, and the anxiety he had felt for fear of fire has now been removed. The repairs amounting to \$79 90 will appear in the accounts for 1872-73.

FOG ALARM, PARTRIDGE ISLAND.

There have been some important changes made at this station during the past year, tending to greater economy in the future. These alterations and changes have been performed chiefly by the resident engineer, at a moderate expense to the Department.

The rail track laid from the engine house to the landing at the east end of the island for transporting the coal and wood to the engine house and coal shed on the west end, was expensive and difficult to be kept in repair. A small engine was stationed in the coal shed for hauling the loaded cars from the shore to the station, and the expense of keeping up this rail track, made as it is of deals, over such uneven ground, which frost and storms were constantly removing, together with the additional expense of a rope of great length for drawing the cars, and a separate engine consuming fuel for this purpose, was found could be avoided, and performed at much less expense by carting. Consequently the road from the new wharf recently erected, only required to be repaired, and an incline bridge made from the new wharf to the embankment, to admit a horse and cart taking the coal and wood from the wharf or vessel direct to the engine house. This alteration was adopted as directed by you, and the result has proved as was anticipated, a cheaper and more convenient way of conveying the supplies for this station, as well as for the lighthouse on Partridge Island.

The small engine not being required for the purpose before specified, was transferred to the engine house, and is now used for pumping the water from the well into the tank, inside of the building. This is done at such intervals when the steam is up, as not to incur any additional expenses for fuel. The engine referred to is also found serviceable in turning a lathe, sawing wood, or any work of this kind, thus utilizing the surplus steam. It was the intention to connect the pipes leading from the pump of the large engine with the outside well, but the engineer preferred making the small engine do this work.

Another very important improvement was also made, by connecting the two wells together by a pipe sunk in a drain, below the frost depth, to admit the water to flow from the large well into the small one; (without pumping it by hand, as was formerly done,) thus securing a constant and regular supply of water at all times in the well at the engine house.

FOG ALARM, POINT LEPREAUX.

Nothing has been required at this establishment during the past year, beyond the ordinary charge of maintenance. The efficiency of this establishment is well maintained, and highly spoken of by the pilots and mariners trading in the bay. The sound of this whistle is frequently heard at a distance of twenty-five miles from the station.

BELL BUOY, PARTRIDGE ISLAND.

This buoy, anchored at the eastern end of the Island, is one of the most important buoys in any of the harbours in the Bay of Fundy. From its exposed situation, it is constantly in motion, and at times, it is dashed about with great violence by the fury of the waves during heavy storms. The shackles and mooring chains are thus put to the severest test, and the wear and tear is great.

Mr. Alexander Reed, light-keeper on Partridge Island—one of the oldest, and most reliable and intelligent light-keepers in the service—has this buoy under his special care. Mr. Reed reported that the shackles and chain required repairing. The bell buoy was therefore brought to the city, and while undergoing repairs, a can buoy was anchored in

its place. The cost of the new chain, shackles, painting, and other repairs amounted to \$397.05.

REED'S POINT LIGHT.

This beacon has three lanterns, exhibiting to the harbour—three red lights, and three white lights on the city side.

The expense of this beacon light is borne in the proportion of one-third by the City Corporation, and two-thirds by the Department.

It was found necessary during the year to have the foundation wall repaired, and one course of free-stone inserted to bring it to its proper height.

The contract for this work was given by City Engineer to Mr. Tay, and the cost to this Department was \$80.

THE RIVER ST. JOHN LIGHTS.

The lantern at Green Head Station took fire, causing a suspension of light for a couple of nights. Due notice was given of the suspension. The lantern at Oak Point underwent repairs during the winter. All the lights are well maintained.

JOURIMAIN LIGHT.

Great difficulty was experienced by the keeper for the want of a road from the light-house to the public road. A contract was therefore made with Mr. George Allan, to remove the trees and make a turnpike road, agreeable to specification, for \$100. The road has been so far completed as to justify the Inspector in granting him \$70 on account, reserving the balance until the road passes final inspection. A small barn has also been erected at this station.

The supplies were forwarded to all the stations at a moderate expense, and from various sources I am informed that the lights are well maintained, and the keepers all manifest a commendable zeal and readiness at all times, to carry out the wishes of the Department.

I have &c.,
(Signed) J. H. HARDING,
*Agent of the Department of Marine
and Fisheries for New Brunswick.*

The Honorable PETER MITCHELL,
Minister of Marine and Fisheries &c., &c., &c.,
Ottawa.

REPORT OF INSPECTOR OF LIGHTS.

MIRAMICHI,
NEW BRUNSWICK,

To the Agent of the
Department of Marine and Fisheries,
St. John, N. B.

3rd December, 1873.

SIR,—During the past year, I have not been able, personally, to visit all the light-houses in this Province, on account of having been directed to St. Pauls and Sable Islands, to have fog alarms erected at those stations.

I have much pleasure, however, in informing you, that, having visited many of the lights and fog alarms placed under my supervision, I found them all in perfect order, and very efficiently kept.

DALHOUSIE.

The lighthouse at this station is in perfect order. I visited it twice last season, and found the keeper at his post. The buildings will require to be painted next season.

MISCOU.

I visited this station on the 26th May; found the building neat and clean, with the lamps in good order, and exhibiting an excellent light. I remained all night at this station to see the working of the light. Little will be required at this station the next season, with the exception of painting, and pointing the foundation stones.

CARAQUET.

This light was visited on the 28th May. The light is in good order; the dwelling neat and clean. I was directed by the Department, to have a wood shed erected at this station, which has been done at a cost of \$80. The keeper, Mr. Kerr, is very attentive.

SHIPPEGAN.

A small light tower has been erected on an island called L'Islet, in Shippegan Gully, in the County of Gloucester, Province of New Brunswick, and first shown on the 16th October. A small beacon light is much required at this place to mark the course of the channel. Agreeably to instructions received from the Department, I placed Francis Dumaresque, in charge of this station. This light is of the greatest importance to fishermen making harbour. An oil shed has also been erected.

TRACADIE.

A small tower light was erected at the mouth of Tracadie Gully, in the County of Gloucester, Province of New Brunswick. It is a fixed white light, and first shown on the 16th October.

A small beacon light is also required at this station to range with the lighthouse, to mark the channel.

Agreeably to instructions from the Department, I placed William Archer in charge. The light is of service to vessels making the harbour, as well as for vessels passing up and down the bay. An oil store has also been erected in connection with the light.

PORTAGE ISLAND.

This light is in good order, and nothing further will be required for some time, beyond the ordinary yearly expenditure. There has been a keeper's dwelling erected this year—completed in May last; comfortable in all respects, and to the satisfaction of the keeper.

RICHIBUCTO.

The light at this station is in good order. The building will require to be painted. There has been no expenditure beyond the ordinary yearly outlay.

CASSIE'S POINT.

A light house tower and dwelling has been erected at this place. I visited this building several times during its construction. A revolving white light is placed in the tower; it is very powerful, and spoken of very highly by masters of steamers and of other vessels trading to and from the railway terminus at Shediac. This light was first shewn on 30th August. The keeper P. Leblanc is very attentive, and keeps the building in good order.

QUACO.

I visited this station on the 10th August. The building is in good order, clean and neat. The keeper is very attentive and obliging. I would recommend the painting of this building next season. The rock on which the tower stands is wearing away considerably.

WOLF ISLAND.

There has been a lighthouse erected at this station, on the south eastern point of the south western Wolf Island in the Bay of Fundy, having a revolving white light. The lantern surmounts the keeper's dwelling, which is a square wooden building painted white.

I would recommend that a wood-shed be erected so that the keeper might be able to preserve his fuel, as it is impossible at certain times to labour outside. This light was first shewn on 20th November last. The General Superintendent visited this place early in the spring, and informed me as to the state it was in. He suggested some improvements in connection with the outside of the building, which I shall carry out as early as possible.

BLISS ISLAND.

A light has been erected on the west point of this island, Charlotte County, New Brunswick, in the Bay of Fundy.

The tower is a square wooden building painted white, with a fixed red light; the illuminating apparatus being catoptric. It was first shewn on the first day of December last. The General Superintendent visited and inspected the light at this station this year.

CAPE JOURIMAIN.

I visited this station on the 18th October last. The lantern is very much confined, there being very little room for the keeper to move about when keeping the lantern in order. There were some leaks from the top of the lantern, which I have ordered to be repaired.

The lighthouse was in course of painting, which was much required. The building generally is in good order.

BEACON LIGHTS.

There has been two beacon lights erected at the lower end of Fox Island, at the entrance to the Miramichi River, during the present fiscal year, with houses for the keepers. In addition to those beacons, there are eight others on the Miramichi River—two at Shediac, and six on the St. John River, which are all in perfect order.

BUOYS AND BEACONS.

The buoyage in the several ports under my control has been very satisfactory. There has been a larger expenditure in this service than in former years, owing to the heavy storms, and the ice making earlier than usual. The pilots, on account of the rise in wages, have charged more for lifting and laying down buoys than in former years. There has been very few complaints in reference to this service. Some new buoys will be required next season.

MARINE HOSPITAL, MIRAMICHI.

There has been no expenditure this year beyond the ordinary outlay for wages, and maintenance of this institution for the past year. I have made arrangements to have the building and fences painted, and to have the stone work painted. In the interior of the building everything is in good order.

GENERAL REMARKS.

The oil supplied this year has proved satisfactory, not having heard any complaint from any of the stations, but the casks have proved rather leaky, causing considerable loss in the measurement, not having held out when drawn off to be put into tanks.

Some new tanks are required here for the lighthouses lately erected.

(Signed,)

J. MITCHELL,

Inspector of Lights.

APPENDIX No. 6.—STATEMENT of Expenditure of the New Brunswick Agency of the Department of Marine and Fisheries,
for Maintenance of Lights, &c., for the Fiscal Year ended 30th June, 1872.

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	SALARIES, ETC.				
J. Coughlan	Salary as Keeper, Beacon Light, Oak Point	100	00		
T. Lewis	do Preston's Beach	100	00		
G. Rogers	do Repairs and supplies	20	00		
G. Theal	do Fox Island	200	00		
T. Kerr	do Repairs and supplies	130	55		
W. B. McLaughlin	do Beacon Light, Oak Point, River St. John	80	00		
J. C. Clarke	do Caracquet Island	200	00		
F. Russell	do Repairs and supplies	20	00		
J. N. Williams	do Gannet Rock	840	00		
G. Tingley	do Repairs and supplies	570	00		
J. R. Snell	do Grindstone Island	400	00		
R. Buzza	do Repairs and supplies	61	30		
J. R. Hazen	do Grant's Beach	100	00		
G. Thomas	do Green Head	80	00		
A. Reed	do Repairs and supplies	39	04		
G. Davidson	do Cape Enrage	400	00		
W. Love	do Repairs and supplies	38	40		
G. McConnell	do Head Harbor	400	00		
E. Ross	do Repairs and supplies	121	93		
F. Richard	do No Man's Friend	80	00		
	do Ormococt Shoals	80	00		
	do Repairs and supplies	2	50		
	do Point Lepreau	400	00		
	do Repairs and supplies	31	64		
	do Partridge Island	500	00		
	do Repairs and supplies	231	30		
	do Portage Island	200	00		
	do Quaco	400	00		
	do Repairs and supplies	90	17		
	do Miscou	500	00		
	do Repairs and supplies	35	34		
	do Beacon Light, St. John Harbor	400	00		
	do Repairs and supplies	301	24		
	do Richibucto	100	00		
	do Repairs and supplies	3	00		

APPENDIX 6.—STATEMENT of Expenditure of the New Brunswick Agency of the Department of Marine and Fisheries, for Maintenance of Lights, &c., for the Fiscal Year ended 30th June, 1872. (continued.)

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	<i>Brought forward—</i>				
	<i>Richibucto.</i>				
J. R. Foster	Laying buoys, &c.	229	02		
J. Wheaton	New buoy chain	215	46	444	48
	<i>Shediac.</i>				
A. Davidson	Placing buoys	60	00		
G. B. Foster	Lifting do	11	00		
P. White	Repairing do	100	00		
W. McFarlane	Towing do	4	00		
I. Mitchell	Picking up buoys	15	00	190	00
	<i>Cocagne.</i>				
J. Irving	Lifting and placing buoys			20	00
	<i>St. George.</i>				
J. Campbell	Lifting buoys, &c.			231	00
	<i>Shippegan.</i>				
W. Taylor	Lifting and placing buoys	201	52		
P. Power	Lifting buoys	14	00	215	52
	<i>Bathurst.</i>				
Ferguson, Rankin & Co	New buoy	26	67		
J. Andrews	do	64	00		

J. Ferguson.....	Supplies.....	17 43	108 10
<i>St. Stephen.</i>			
Boyd & Connolly.....	Making buoys.....	35 00	
C. Z. Chipman.....	Chain, &c.....	25 30	
R. Young.....	Lifting buoys, &c.....	126 00	186 30
<i>St. Andrew's.</i>			
G. Gilley.....	Placing buoys.....	48 00	
W. Whitlock.....	Sundries.....	8 35	
S. W. Street.....	Two puncheons.....	6 00	62 35
<i>Dalhousie.</i>			
D. Stewart.....	New Buoy.....		114 40
<i>Campbelltown.</i>			
J. Ritchie.....	New buoy, &c.....		211 20
<i>Bell Buoy, Partridge Island.</i>			
W. Elder.....	Advertising.....	16 50	
Clark & Stackhouse.....	Moving buoys, &c.....	369 42	
W. Lewis.....	New Springs.....	27 60	413 52
GENERAL ACCOUNT.			
F. A. Fitzgerald & Co.....	Balance on oil contract.....	1,739 43	
W. & S. Anslow.....	Advertising.....	21 80	
C. McLaughlin.....	Freight.....	4 64	
F. Robideau.....	Advertising.....	24 80	
Willie & Davis.....	do.....	22 84	
W. M. Smith.....	Testing oil.....	20 00	
N. Tate.....	Freight on oil, &c.....	24 00	
M. Sergeant.....	Supplies.....	13 80	
Steamer <i>Botheay Castle</i>	Freight on oil.....	7 40	
J. Fairweather.....	Wharfage.....	14 65	
H. Belmore.....	Freight on supplies.....	20 00	
Small & Hatheway.....	do.....	8 85	
J. Clarke.....	do.....	10 90	
<i>Carried forward.....</i>			

APPENDIX 6.—STATEMENT of Expenditure of the New Brunswick Agency of the Department of Marine and Fisheries, for Maintenance of Lights, &c., for the Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	<i>Brought forward—</i>				
	<i>Richibucto.</i>				
J. R. Foster	Laying buoys, &c.	229	02		
J. Wheaton	New buoy chain	215	46		
				444	48
	<i>Shediac.</i>				
A. Davidson	Placing buoys	60	00		
G. B. Foster	Lifting do	11	00		
P. White	Repairing do	100	00		
W. McFarlane	Towing do	4	00		
J. Mitchell	Picking up buoys	15	00	190	00
	<i>Cocaigne.</i>				
J. Irving	Lifting and placing buoys			20	00
	<i>St. George.</i>				
J. Campbell	Lifting buoys, &c.			231	00
	<i>Shippegan.</i>				
W. Taylor	Lifting and placing buoys	201	52		
P. Power	Lifting buoys	14	00		
				215	52
	<i>Bathurst.</i>				
Ferguson, Rankin & Co	New buoy	26	67		
J. Andrews	do	64	00		

J. Ferguson.....	Supplies.....	17 43	104 10
<i>St. Stephen.</i>			
Boyl & Connolly.....	Making buoys.....	25 00	
C. Z. Chipman.....	Chain, &c.....	25 30	
R. Young.....	Lifting buoys, &c.....	126 00	186 30
<i>St. Andrew's.</i>			
G. Gilley.....	Placing buoys.....	48 00	
W. Whitlock.....	Sundries.....	8 35	
S. W. Street.....	Two puncheons.....	6 00	62 35
<i>Dalhousie.</i>			
D. Stewart.....	New Buoy.....		114 40
<i>Campbelltown.</i>			
J. Ritchie.....	New buoy, &c.....		211 20
<i>Bell Buoy, Partridge Island.</i>			
W. Elder.....	Advertising.....	16 50	
Clark & Stackhouse.....	Moving buoys, &c.....	369 42	
W. Lewis.....	New Springs.....	27 60	413 52
<i>GENERAL ACCOUNT.</i>			
F. A. Fitzgerald & Co.....	Balance on oil contract.....	1,739 43	
W. & S. Andow.....	Advertising.....	21 80	
C. McLaughlin.....	Freight.....	4 64	
F. Robideau.....	Advertising.....	24 90	
do.....	do.....	22 84	
William & Davis.....	Testing oil.....	20 00	
W. M. Smith.....	Freight on oil, &c.....	24 00	
N. Tao.....	Supplies.....	13 80	
M. Sergeant.....	Freight on oil.....	7 40	
Steamer <i>Isleway Castle</i>	Wharfage.....	14 65	
J. Fairweather.....	Freight on supplies.....	20 00	
H. Belmore.....	do.....	8 85	
Small & Hatheway.....	do.....	10 90	
J. Clarke.....	do.....		
<i>Carried forward.</i>			

APPENDIX 6.—STATEMENT of Expenditure of the New Brunswick Agency of the Department of Marine and Fisheries, for Maintenance of Lights, &c., for the Fiscal Year ended 30th June, 1872.—Continued

TO WHOM PAID.	SERVICE.	cts.	\$ cts.	c s.
	<i>Brought forward.</i>			
	GENERAL ACCOUNT.—Continued.			
Stephenson & McGibbon	Storage on oil	7 88		
J. H. Harding	Salary as Inspector, from 1st July to 31st October, 1871.	440 00		
do	Travelling expenses, do	131 82		
A. Davidson	Freight on oil	21 10		
J. Congdon	do	3 60		
Captain Chisholm	Freight and storage	5 60		
H. & J. McMinney	Inspector's office (above)	15 50		
J. Harley	Travelling expenses as Inspector	537 00		
J. Lovell	Directory	3 00		
R. Young	Freight on supplies	6 60		
E. Willis	Advertising	9 50		
A. Quick	Rope, cotton, &c.	78 45		
W. Elder	Advertising	16 34		
W. B. McLaughlin	Water supplied	64 00		
J. King	Boat hire	40 80		
J. Mitchell	Salary as Inspector, from 1st November to 30th June, 1872.	840 10		
do	Travelling expenses	293 00		
G. H. Day	Printing, &c.	31 50		
Union Glass Company	Barren, &c.	19 51		
E. J. Bardeau	Work at warehouse	14 25		
J. Johnston	Postage account	17 51		
W. Watt	Sundries	89 45		
J. R. Cameron & Co	Oil lamps, &c.	253 70		
J. Tomlinson	Travelling expenses	150 00		
J. Livingston	Advertising	18 40		
G. W. Smith	Cartage on oil	4 15		
G. A. Garrison	Delivery of oil	2 60		
L. Graham	Flinders	3 20		
R. B. Call	Freight, &c.	96 50		
H. Chubb & Co	Printing blanks	3 00		
G. Holmes	Rent of store	8 00		
Melock & Jordan	Freight on gun	50 00		
J. Reed	Refund of tax	15 62		
J. H. Harding	Sundry petty disbursements	41 10		
			5,208 29	

Department of Marine and Fisheries,

2nd January, 1873.

Wm. SMITH,

Deputy of Minister of Marine and Fisheries

APPENDIX No. 7.

REPORT OF THE AGENT FOR BRITISH COLUMBIA, OF THE DEPARTMENT OF MARINE AND FISHERIES, FOR FISCAL YEAR ENDED 30TH JUNE, 1872.

AGENCY OF DEPARTMENT OF MARINE AND FISHERIES,
VICTORIA, BRITISH COLUMBIA, 10th December, 1872.

SIR,—I have the honor to forward a Report, for the information of the Honorable the Minister of Marine and Fisheries, of the operations of the Department, in the Province of British Columbia, for the fiscal year, commencing from the date of Confederation,—20th July, 1871,—and ended 30th June, 1872.

The accompanying abstract of receipts and expenditure, I have obtained from cash book kept by Mr. Austin, of the Provincial Office of Lands and Works.

In framing a Report of the operations of this agency of the Department, for the fiscal year ended 30th June last, the fact of my only having very recently been connected with the agency makes me necessarily labour under some disadvantages, inasmuch as there are no books or papers whereby I can gather the information sought, further than the financial abstract appended hereto. The conclusions that I have arrived at, with reference to the working of the Department are, that in consequence of the changes created by the Confederation of this Province with the Dominion, and the absence of any organised system, the policy of the representatives of federal authority was doubtless an exercise of the most rigid economy, as I find that no repairs, except very trifling ones, have been executed on either of the lighthouses for the twelve months preceding the end of the fiscal year. Nevertheless, the Race Rocks Lighthouse has uniformly shewn a good and brilliant light; no complaints within my knowledge having been made of any neglect. With reference to Fisgard Lighthouse, at the entrance to the Esquimalt, I have heard masters of vessels and pilots also, complain of the poor light exhibited there, so poor indeed that it is difficult to see it; I account for this from the fact that coal oil for some time past has been burnt in the lantern; probably as a matter of economy, but when the efficiency of the light is impaired, the economy may be justly questioned. The lightship off Fraser River suffered much damage in a heavy westerly gale in November, 1871, causing an extraordinary outlay for repairs &c., the accounts of which have doubtless been duly forwarded to you through other channels. In refitting the vessel, the fog bell was taken from the forepart of the vessel, to make room for the fitting of a new windlass, and was suspended near the cabin hatch. The consequence of this is, that the keepers, from reports which have reached me unofficially, are not so vigilant or attentive to the ringing of the bell in foggy weather as they ought to be. I look upon it as a great mistake that the bell in question should have been suspended so close to the habitable part of the vessel, that the noise and din, when tolling, would render existence almost insufferable. For some time within the period the report includes, only four of the Argand lamps of the lightship were lit, instead of eight, with which the vessel is supplied; but I believe that by instructions from the Department this error was corrected. Serious consequences might have resulted from the experiment, as the Gulf of Georgia, unlike the Fraser, is increasing in importance; seeing that magnificent sheet of water is now, and has been for some time past, the highway for the coal and lumber trade of the country. A generally received idea is, that in consequence of the small traffic of the Fraser, the lightship is not of the same relative value in her position that she would have been if British Columbia and Vancouver Island had remained separate colonies. No greater mistake could be entertained. The lightship is, unquestionably, more valuable to the navigation of the Gulf of Georgia than any other light could be, no matter where constructed. The freedom from disaster or accident on Fraser River sands speaks for itself. It would scarcely be probable that out of the number of vessels now navigating the Gulf of Georgia, the same immunities from danger would exist were the lightships removed; for in thick weather,

with adverse winds and the shore of the sands steep, disasters must necessarily frequently occur. On re-mooring the vessel at her station last spring (11th March), one anchor and only fifty fathoms of chain were supplied as moorings. The vessel being in nine or ten fathoms of water, the whole of the chain so supplied is necessarily out, and the end made fast on deck, none being left to veer should circumstances require it. This ground tackle has fortunately held the vessel, but in the event of the chain breaking, either from stress of weather or corrosion, no means are provided for the safety of the vessel, or for retaining her in her place. I look upon it, in making a report of the operations of the Department, that it is advisable and necessary to state these facts in detail. The Dominion steamer *Sir James Douglas*, has been employed mainly on the route of the east coast of Vancouver Island, carrying mail, passengers and freight. The vessel has also rendered good service in conveying various Dominion officers to important points in the Province, and in performing other federal duties as circumstances required. I have been informed by the master in charge, that no repairs have been made on the vessel for the time embraced in this report, further than those absolutely necessary at the moment, such as repairing breaks or patching the boiler.

The Sand Heads off Fraser River were re-surveyed, and the channel re-marked. The buoys and moorings were all examined, and the buoys cleaned and painted. This work was performed in the month of November—a very unfavourable season—and the appliances for performing the work were by no means commensurate with the duties; consequently, the expenses entailed were greater, and the time occupied much longer, than this work would otherwise have absorbed if a steam vessel had been employed for the entire service. At the time this work was carried out, the Government steamer, *Sir James Douglas*, had to make her regular trips to and from Nanaimo, calling at the settlements as usual, and giving only two days a week towards the service required on the Sand Heads. The time was mainly absorbed in communicating with New Westminster, and towing the punt with the buoys on board; it being necessary to obtain shelter against the inclemency of the weather. Probably no duties connected with the Department in this Province are more important than those of defining the channel on the Sand Heads, and keeping it constantly marked; and probably also there are none less appreciated or understood by inexperienced persons. The Sand Heads off Fraser River will always be a source of expense to the Government from the shifting character of the sands, and when the resources of the country become more developed, and commerce increases, a more vigilant and attentive watch, and consequently an increased expenditure per annum will be absolutely necessary. The steamer *Enterprise*, and occasionally one of Her Majesty's ships, and a few small coasters, comprise the only traffic on the Lower Fraser; but it must be borne in mind that nearly the whole of the up country trade, including mails, passengers and freight, is transported by that steamer to and from New Westminster, by which means at least two-thirds, if not a greater portion, of the Customs Revenue of the Province is derived. Another important feature is, that the steamer in question being a mail and passenger vessel, is required to cross the Sands very often in bad and foggy weather, and should she under such circumstances, meet with any accident in consequence of the buoys being out of position, it would probably prove very disastrous. The buoys and beacons in Nanaimo are constructed of wood, and having been in position for some time, are much worm-eaten and continually requiring repairs. The buoys in Victoria are small iron buoys, have been much neglected, and I fear, together with the moorings, are much corroded and worn.

I have endeavored to confine my remarks, as much as possible within the limits of the Report, but shall take an early opportunity of submitting for your consideration, certain suggestions, having a prospective bearing on the working of the Department.

I have, &c.,

JAMES COOPER,

Agent of Department of Marine and Fisheries
for British Columbia.

APPENDIX No. 8.

STATEMENT of Expenditure on Account of Dominion Steamers, for Year ended 30th June, 1872; and also of Subsidies paid for Steam Communication.

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
"NAPOLEON III."					
Capt Gaurleau.....	Twelve months' salary as Captain.....	832	00		
Receiver General.....	Tax deducted from 1st July 1870, to 30th June 1872.....	68	00		
		900	00		
J. U. Gregory.....	Wages of officers and crew.....	4,437	21	5,337	21
W. P. Tett.....	Provisions.....	7	43		
J. C. Nolan.....	do.....	288	50		
Nolan & Co.....	do.....	150	29		
L. Arel.....	do.....	1,345	27		
L. Marcis.....	do.....	214	15		
A. Larochelle.....	do.....	23	62		
C. Levesque.....	do.....	10	00		
F. Plamondon.....	do.....	28	57		
E. J. Banfield.....	do.....	49	97		
G. H. Gove.....	do.....	25	90		
J. R. Thibideau.....	do.....	20	83		
H. A. Pax.....	do.....	8	00		
J. Eden.....	do.....	127	14		
H. A. Marchand.....	do.....	13	40		
N. Fitchery.....	do.....	14	80		
R. & R. M. Shaw & Co.....	do.....	42	38		
F. Ladoume.....	do.....	206	80		
C. A. Ituel.....	do.....	88	57		
		300	00	2,685	62
T. Oliver.....	Repairs.....	12	87		
T. O. Pondhoe.....	do.....	572	21		
J. R. Nell.....	do.....	44	57		
F. Ross & Co.....	do.....	1,187	76		
S. Peters.....	do.....	349	26		
D. Davidson.....	do.....	42	50		
R. Shln.....	do.....				

P. Whitley.....	do	495 00
G. Biset.....	do	1,459 00
Tweedell & Campbell.....	do	403 46
J. M. Tardivel.....	do	519 12
Tweedell & Co.....	do	122 74
D. Kerr.....	do	8 00
L. Guerd.....	do	70 75
G. T. Phillips.....	do	1,000 62
Fullerton & Alexander.....	do	100 00
R. Greig.....	do	12 68
J. B. Trudell.....	do	297 76
J. Rolph.....	do	349 00
Archer & Co.....	do	10 60
W. Barbour.....	do	25 80
J. U. Gregory.....	do	545 42
L. Gagné.....	do	2,348 45
		10,727 06
P. Rouillard.....	Washing.....	98 00
A. Noel.....	Boat.....	61 10
J. Marmen.....	Cartage.....	141 42
Mis. Powell.....	Milk.....	20 70
J. U. Gregory.....	Expenses in connection with coal and coaling steamer.....	135 20
M. Talbot.....	Pilotage.....	60 00
A. Frazer & Co.....	Moorage.....	18 00
C. & W. Wurtell.....	Rivets.....	47 67
Hamel & Frères.....	Blankets, &c.....	172 50
R. Blakiston.....	Sundries.....	112 15
J. Cl.....	Ship bread.....	8 15
H. F. Belton.....	Cement.....	13 50
T. Robertson & Co.....	Sundries.....	42 45
L. Guerd.....	Flapw.....	47 00
Richelieu Coy.....	Freight.....	43 15
Allan, Rae & Coy.....	do.....	86 81
St. Lawrence Tow Boat Coy.....	do.....	23 13
W. Crawford & Son.....	Coal.....	1,080 75
W. C. Adams.....	do.....	48 00
C. Poston.....	do.....	354 45
Dinning & Webster.....	Cotton waste, &c.....	23 80
Ryerson & Powell.....	Copper nails.....	32 18
W. Drum.....	Furniture.....	82 63
F. O. Valleraud.....	Chimneys, &c.....	17 75
J. Masson & Coy.....	Medicines.....	2 60
J. Robertson.....	Iron, &c.....	403 75
P. Paine.....	Cutting ice.....	27 00
O. Gourdau.....	Guardian.....	20 00
P. Gauvreau.....	Cement.....	9 00
S. J. Gregory.....	Wintering.....	180 53
S. J. Shaw.....	Rubber packing, &c.....	27 60
Audet & Robitaille.....	Rope, Oakum, &c.....	228 95
Carried forward.....		

STATEMENT of Expenditure on Account of Dominion Steamers and Subsidies paid for Steam Communication, &c.—C nt.

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
	<i>Brought forward.</i>				
	<i>"NAPOLEON III."—Continued.</i>				
P. Coutts.....	Belts.....	15	00		
J. M. Tardiff.....	Spar.....	41	00		
J. Bovin.....	Turpentine.....	6	00		
G. Glasford.....	Nails.....	17	75		
H. Dinning.....	Iron, &c.....	60	68		
F. O. Valleraud.....	Sundries.....	2	95		
J. LeBlanc.....	Travelling Expenses.....	10	00		
W. Barbour.....	Outfitting.....	26	40		
E. Gourdau.....	Disbursements at Port du Basque.....	81	90		
Carrier, Lane & Co.....	Stove.....	8	28		
E. E. Buteau.....	Cartage postage, telegrams, and petty disbursements of Steward.....	350	43	4,290	11
					23,040 00
	<i>"DAVID."</i>				
A. Marmon.....	Twelve months' salary as Captain.....	832	00		
Receiver General.....	Tax deducted from Captain's salary, from 1st July 1870 to 30th June 1872.....	68	00		
		900	00		
J. U. Gregory.....	Wages of officers and crew.....	4,112	22	4,994	22
	Provisions.....	960	61		
L. Arel.....	do.....	94	80		
R. Call.....	do.....	43	87		
E. Moss.....	do.....	60	87		
P. Blake.....	do.....	222	29		
L. Marois.....	do.....	25	55		
E. J. Banfield.....	do.....	44	40		
Garrille, Bros.....	do.....	189	59		
J. C. Nolan.....	do.....	161	08		
Nolan & Co.....	do.....	39	30		
Mrs. Powell.....	do.....	21	20		
H. A. Fare.....	do.....	7	25		
Carrier & Dion.....	do.....	8	75		
B. J. Banfield.....	do.....				

P. Plamondon	do	72 70
F. Lathuine	do	195 40
		2,147 66
Rosa & Co.	Repairs	165 66
S. Peters	do	1,044 98
J. Fréris	do	18 80
α C. & U. Wurtell	do	296 62
B. Tweedell	do	8 32
R. Ray	do	40 00
R. Neill	do	1,283 96
G. T. Phillips	do	379 39
G. Elisset	do	39 37
J. O. Donahoe	do	8 00
C. Vezina	do	30 65
S. Bedard	do	141 58
S. Canoll	do	22 60
P. Whitley	do	12 80
C. Samson	do	65 24
L. Gagné	do	592 27
		4,000 24
D. Davidson	Ship stores	10 94
J. Marmen	Cartage	50 02
R. Rouillard	Washing	96 00
C. Cape	Pilotage	6 00
L. Borelle	do	6 00
Dinning & Webster	Cotton waste, &c.	47 55
Hamel & Frères	Dry goods	79 20
J. Masson & Co.	Medicines	6 40
F. O. Valleraud	Chimnies, &c.	20 70
J. S. Butler & Co.	Sherry	30 00
W. Drum	Furniture	130 20
C. Poston	Coal	861 00
W. Crawford	do	537 00
T. Robertson & Co.	Sundry supplies	116 11
Packer & Sons	Rags	17 50
C. Giguère	Securing <i>Druid</i> during storm	57 00
Richardson & Son	Leather	5 10
S. J. Shaw	Rubber packing	12 90
J. E. Tweedell	Tube brushes, &c.	55 20
J. Laird	Monrage	63 00
W. C. Adams	do	6 00
H. G. Scott & Co.	Packing, rivets, &c.	24 80
Audet & Robitaille	Rope, &c.	47 25
Montreal Telegraph Co.	Telegrams	14 72
J. Plais	Wintering	50 00
G. Glaisford	Gaskets	10 50
Archer & Co.	Lumber	3 00
P. Couette	Belts	15 00
H. Bruno	Life preservers	40 00

Carried forward

STATEMENT of Expenditure on Account of Dominion Steamers and Subsidies paid for Steam Communication, &c.—Cont.

TO WHOM PAID.	SERVICE.	cts.	\$ cts.	\$ cts.
<i>Brought forward</i>				
<i>"DAVID."—Continued.</i>				
R. Blakiston.....	Cotton duck.....	3 50		
R. & R. M. Shaw.....	Sundries.....	75 18		
Archer & Co.....	Lumber.....	33 90		
T. Andrews.....	Cutlery.....	16 00		
J. Bolvin.....	Hardware.....	12 53		
E. Paradis.....	Wages of workmen.....	11 40		
J. Rousseau.....	do do.....	13 33		
E. Baugout.....	do do.....	11 19		
T. Moss.....	do do.....	20 00		
M. Cabey & Dolbec.....	Crockeryware.....	8 10		
E. E. Buteau.....	Petty disbursements.....	208 52		
			2,853 16	13,995 28
<i>"LADY HEAD."</i>				
H. W. Johnston.....	Wages of officers and crew.....	238 94		
H. & W. Meagher.....	Provisions.....	33 43		
E. J. Hamilton.....	do.....	400 13		
H. W. Ives & Co.....	do.....	217 72		
W. H. Nautia.....	do.....	100 49		
E. Morrison.....	do.....	2 62		
J. Woodell & Son.....	do.....	9 42		
T. A. Lockhart.....	do.....	38 42		
Brackell & Duffy.....	do.....	665 70		
J. Parker, jun.....	do.....	17 04		
Corbett & McQueen.....	do.....	86 60		
Lordly & Stimpson.....	do.....	161 40		
J. J. Scribner.....	do.....	19 36		
G. J. Hamilton.....	do.....		2,011 27	
Acadia Coal Company.....	Coal.....	875 35		
Victoria Coal Company.....	do.....	126 00		
Jesse Hught.....	do.....	385 00		
F. D. Corbett & Co.....	do.....	308 00		

D. Starrs & Son.....	Cutlery.....	5 35
D. Murray & Co.....	Table covers.....	6 09
Dawson, Gordon & Co.....	Oil, &c.....	6 75
H. Fraser.....	Drugs.....	3 54
Fraser, Reynolds & Co.....	Cotton waste, &c.....	48 94
Black Bros. & Co.....	Hardware, rope, &c.....	179 51
J. E. Butler.....	Oars.....	7 50
J. R. Jennett & Co.....	Earthenware, &c.....	7 40
S. Crawford.....	Kerosene.....	31 46
J. Forhan.....	Sailmaking.....	108 39
J. K. Gould.....	Signals.....	14 36
J. D. Potter.....	Seriat.....	33 05
Capt. P. A. Scott.....	do.....	39 50
J. Hunter.....	Globe, &c.....	29 70
Gordon & Keith.....	Bedding.....	22 63
J. Blacklock.....	Polystones.....	5 40
Duffin & Co.....	Sheeting.....	12 21
C. Phalan & Son.....	Tinware.....	4 50
J. Ead.....	Cotton duck, &c.....	38 00
Montgomery & Co.....	Iron, &c.....	24 92
J. Hogan & Sons.....	Lumber.....	19 05
J. Stairs.....	Olive oil, &c.....	274 36
J. P. Mott.....	Tallow.....	98 95
S. W. Marvin.....	Stove, pipes, &c.....	47 20
A. & H. Creighton.....	Chara.....	19 15
M. F. Eager.....	Medicines.....	14 02
Fraser, Reynolds & Co.....	Packing, &c.....	105 64
Forsyth & Co.....	Oil.....	17 50
Avery, Brown & Co.....	Fluid.....	4 00
A. Noel.....	Boat.....	67 60
A. & H. Creighton.....	Logbook.....	10 70
H. M. Miller.....	Iron-work.....	16 39
J. Munro.....	Ice-house, &c., &c.....	81 56
Dill, Torre & Co.....	Glass.....	16 00
K. Griffin.....	Use of pump.....	2 50
A. Robinson.....	Blacksmith's work.....	66 92
Dawson, Gordon & Co.....	Paint.....	2 75
E. Chishelm & others.....	Ice.....	28 00
J. Hunter.....	Brass-work.....	86 55
P. Shields.....	Blacksmith's work.....	7 80
F. W. Fishwick.....	Cartage, &c.....	14 05
E. Pettipas.....	do.....	3 90
F. Young.....	Lumber.....	6 60
O. C. Herbert.....	do.....	1 60
D. J. Smith.....	do.....	2 28
W. H. Tully.....	do.....	4 26
W. Montgomery & Co.....	Tugs.....	2 50
Nova Scotia Railway.....	Freight.....	12 50
G. Taylor.....	do.....	67 50

Carried forward.....

9,209 56

STATEMENT of Expenditure on Account of Dominion Steamers and Subsidies paid for Steam Communication, &c.—Cont.

TO WHO PAID.	SERVICE.	Brought forward		9,209 66	
		\$	cts.	\$	cts.
H. P. McNeill	Repairs	67	84		
W. S. Symonds & Co.	do	266	60		
J. Hunter	do	41	70		
J. E. Butler	Repairing damage caused by storm to schooner	20	00		
W. Phelan	Coaling steamer	113	90		
F. Wills	Washing	8	41		
A. McKay	Use of tubular boiler	26	13		
W. O. Godson	Wages for August, 1871	21	29		
A. Fetherston	Wages, 1st to 11th August, 1871	7	69		
R. McLeod	do 1st to 23rd October, 1871	13	35		
J. Sheridan	Services as diver	86	00		
A. & H. Creighton	Books	2	25		
H. S. Grant	Wages, 1st to 14th November, 1871	9	33		
A. Drysdale	do 1st to 18th do	9	00		
J. Bartlett	do 15th to 17th April, 1872	13	00		
W. Grant	do 8th to 20th do	67	30		
G. Matson	do of sundry seamen	4	00		
P. Moncy	do 11th to 14th April, 1872	3	60		
H. Wyse	Sundries	30	00		
Commissioners' Water Supply	Water	8	12		
Mrs. Savage	Milk	5	23		
G. Hutchinson	Sundries	296	84		
J. Scott	Preservers	5	30		
J. Blundell	Sundries	19	01		
Black, Bros. & Co.	do	1	00		
R. H. Cogswell	Repairs to clock	1	15		
J. Scott	Brooms	1	25		
J. Holloway & Sons	Blocks	2	43		
J. Morgan & Sons	Lumber	1	90		
L. Feltus	Plumber work	15	45		
J. Hogan & Sons	Lumber	6	00		
C. Neil	Labor	9	05		
G. Matson	Sundries	30	00		
H. W. Johnston	Conveyance of men from Halifax to St. John to join steamer	6	00		
do	Storage of ammunition				

"LADY HEAD."—Continued.

Disbursements. Medical assistance, &c., rendered one of the seamen injured aboard of steamer	70 87 50 00	5,065 93	20,999 63
<i>Extraordinary Repairs.</i>			
Wages of workmen making repairs	4,233 74		
Superintending workmen	360 00		
Lumber	35 50		
Sundry expenses	23 50		
Lumber, &c.	26 00		
Catago, &c.	37 50		
Pitch-pine lumber	876 50		
Lumber	91 91		
Pitch, oakum, &c.	88 05		
Tulsa bolts, &c.	365 80		
Boarding seamen	548 00		
Freight	3 00		
Blacksmiths' work	33 54		
		6,724 04	
<i>GENERAL ACCOUNT.</i>			
Sundries	28 31		
Flags	163 78		
Deck lights, hardware, &c.	268 38		
Stationery	7 00		
H. A. Pace	357 80		
Olive oil, &c.	11 25		
Freight	74 50		
Provisions	915 87		
Carrier & Dion	7 50		
M. Parada	152 66		
Gibb, Laird & Co.	31 50		
A. Barbeau	46 05		
J. Duchanau	7 52		
O. LeMenx	40 00		
A. Wilson & Co.	10 00		
Mrs. Titin	26 00		
J. H. Bradley	740 00		
J. Ould	400 00		
P. Paquet	320 00		
J. Eden	1,417 50		
R. R. Call	123 50		
P. Sutherland	100 00		
J. Hoyt	900 00		
A. Murphy			
J. Eden			
Wharfage on coal			
Freight			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
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J. Ould			
P. Paquet			
J. Eden			
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M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
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Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
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J. Duchanau			
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P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
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A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			
Mrs. Titin			
J. H. Bradley			
J. Ould			
P. Paquet			
J. Eden			
R. R. Call			
P. Sutherland			
J. Hoyt			
A. Murphy			
J. Eden			
J. A. Graham			
Carvell, Bros			
J. Hays & Co.			
J. Flett			
J. Cohen			
H. A. Pace			
Allan, Rae & Co.			
Carrier & Dion			
M. Parada			
Gibb, Laird & Co.			
A. Barbeau			
J. Duchanau			
O. LeMenx			
A. Wilson & Co.			

STATEMENT of Expenditure on Account of Dominion Steamers and Subsidies paid for Steam Communication, &c.—Cont.

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.
<i>Brought forward.....</i>					
GENERAL ACCOUNT.—Continued.					
J. Chabot.....	Freight on coal.....	6,277	72		
D. Chouard.....	do.....	180	00		
Archer & Co.....	Lumber.....	300	00		
Dinning & Webster.....	do.....	38	55		
D. Davidson.....	White lead, cotton waste, &c.....	56	25		
J. & B. Ahern.....	Boiler cleansers.....	267	20		
J. Laird.....	Moorage, coaling, &c.....	80	00		
S. Peters.....	Lumber.....	16	00		
J. Lovell.....	Directorias.....	4	00		
J. Gayné.....	Repairing wharf.....	8	00		
J. Duzyé.....	Witness's fees in re steamer <i>Victoria</i>	60	55		
Montreal Telegraph Company.....	Telegraphing.....	169	69		
Hon. G. Irvine.....	Legal services.....	15	00		
T. Burryman.....	Carting snow.....	15	00		
W. B. Carleton.....	Salary and expenses, extra clerk.....	297	68		
J. H. White.....	Services as extra clerk.....	204	43		
L. A. Blanchet.....	Salary as clerk, 1st January to 14th May.....	297	78		
E. E. Buteau.....	Sundry disbursements.....	110	30		
J. U. Gregory.....	Cordwood.....	65	00		
J. J. Foote.....	Subscription, "Morning Chronicle".....	6	00		
J. M. Tardivel.....	Painting office.....	7	50		
J. Hamel & Frères.....	Mattings for do.....	33	75	8,386	39
J. U. Gregory.....	Twelve months' salary as agent.....	1,344	00		
Receiver-General.....	Tax on do.....	56	00	1,400	00
E. E. Buteau.....	Twelve months' salary as clerk.....	575	00		
Receiver-General.....	Tax on do.....	24	00	600	00
L. A. Blanchet.....	Salary as clerk from 14th May to 30th June.....	75	20		
Receiver-General.....	Tax on do.....	3	13	78	33
					10,464 72
					68,499 63

RECAPITULATION (DOMINION STEAMERS).

Steamer "Druid"	13,995 28
do "Napoleon III."	23,040 00
do "Lady Head"	20,999 63
General Account ..	10,464 72
Total	68,499 63

SUBSIDIES.

TO WHOM PAID.	SERVICE.	\$	cts.
Quebec and Gulf Ports Steamship Company	For maintenance of steam communication between Quebec and the Maritime Provinces	15,000	00
Prince Edward's Island Steam Navigation Company.	For maintenance of steam communication between Charlotte Town and Pictou	1,537	34
	Total	16,537	34

WM. SMITH,
Deputy of the Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
2nd January, 1873.

APPENDIX No. 9.

STATEMENT of Expenditure for Construction of Lighthouses, Fog Whistles and Light Ships throughout the Dominion, during the Fiscal Year, ended 30th June, 1872.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	BELOW QUEBEC.			
	<i>Red Island Fog Whistle.</i>			
Geo. Fleming & Son.....	Balance of contract	1,032 58		
Quebec and Gulf Ports Steamship Co.	Freight.....	300 00	1,332 58	
	<i>South Point Anticosti Fog Whistle and Engine House.</i>			
J. Carvell.....	On account of contract.....		750 00	
	<i>Magdalen River Lighthouse.</i>			
John A. Cameron.....	Balance of contract and extras.....	2,927 00		
E. Chanteloup	Lamps &c.....	19 00		
Joe. Eden	Freight on materials.....	20 00		
P. Chauveau.....	Cement.....	18 00		
Quebec and Gulf Port Steamship Co.	Freight.....	40 75		
Thos. Andrews.....	Sundries.....	18 59		
S. Peters.....	do	21 95	3,065 29	
	<i>Cape Ray Lighthouse.</i>			
Carvell Bros.....	Sundry materials.....	347 94		
J. Mitchell	Expenses incurred in connection with construction	96 00	443 94	
	<i>South Point Anticosti Lighthouse.</i>			
Daley, Carter & Doolan.....	Balance of contract and extras.....		-	429 00

<i>Amherst Lighthouse.</i>				
J. Mitchell	Expenses in connection with construction	96 00		
Quebec and Gulf Ports Steamship Co	Freight on materials	31 06		127 06
<i>Gaspé Light Ship.</i>				
C. Daley	Signal lamps	8 00		
S. Pélard	Lantern, &c.	55 60		
E. A. & G. R. Menely	Bell	62 24		125 84
<i>Mont du Lac Lighthouse.</i>				
L. Gagné	Wages of Workmen	201 17		
L. Elais	Freight	20 00		221 17
<i>Point Prairie Lighthouse.</i>				
C. Garth & Co.	Ventilator			26 50
<i>Lark Islet Lighthouse.</i>				
C. E. Forgues	On account of contract and extras.			426 50
<i>Blvd Rock Lighthouse.</i>				
Daley, Carter & Doolan	Balance in full for contract and extras	827 35		
J. Fiden	Labor, Freight, Materials, &c.	648 10		
L. Gagné	Lumber, &c.	29 13		
Quebec and Gulf Ports Steamship Co.	Freight	23 50		
Webb & Kennedy	Hoisting crane	5 00		
S. Bedard	Copper pipe, &c	83 60		1,656 68
<i>Cape Chatte Lighthouse.</i>				
A. Gingras	In full for contract and extras.	1,563 60		
L. Gagné	Sundries	25 60		
E. Chanteloup	Oil cups, burners &c	96 85		
Archer & Co.	Lumber	135 11		
J. Roy	Making a road	18 40		1,773 56
<i>Carried forward</i>				

APPENDIX 9.—STATEMENT of Expenditure for Construction of Lighthouses, Fog Whistles and Light Ships throughout the Dominion during the Fiscal Year, ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>			
	<i>Carleton Point Lighthouse.</i>			
J. Cullen.....	Amount of contract.....	950 00		
J. Mitchell.....	Sundry expenses in connection with construction.....	72 00		
M. Chanteloup.....	Burners, &c.....	148 64		
			1,170 64	
	<i>Point Rich Lighthouse.</i>			
J. B. Spence.....	Balance for contract and extras.....	968 65		
do.....	Freight on supplies.....	50 00		
L. Gagné.....	Ladder.....	9 33		
			1,027 98	
	<i>Eggland Lighthouse.</i>			
J. D. Spence.....	On account of contract.....	2,000 00		
J. M. Gregory.....	Wages of workmen.....	129 50		
E. E. Buteau.....	Cart, &c.....	35 00		
Richelleu Company.....	Freight.....	11 25		
L. Gagné.....	Oars, &c.....	2 50		
S. Bedard.....	Tinware, &c.....	23 30		
F. O. Valleraud.....	Lamps, &c.....	14 13		
K. Chanteloup.....	Revolving apparatus.....	911 68		
do.....	Lantern, &c.....	702 83		
			3,800 21	
	<i>Beacon Light, Coteau Landing.</i>			
H. S. Masson.....	Cost of construction.....		37 58	
	<i>Upper Traverse Light Ship.</i>			
Wm. Muirhead.....	Purchase of schooner <i>New England</i>	3,200 00		
S. Peters.....	Lumber.....	102 75		
Archer & Co.....	do.....	21 70		

J. Dave.....	520 00
G. T. Davie	416 25
J. O. Donahoe	24 00
G. Glasford	89 15
F. O. Vallerand	9 50
Grand Trunk Railway	9 01
J. B. Trudell	20 20
C. Torreau	14 71
H. Bruno	6 00
B. Jellieur	90 00
A. Tremblay	5 00
L. Gagné	375 79
J. D. Maron	53 75
G. Bisset	1 44
R. Greig	10 69
S. Bedard	30 00
C. Vezina	176 30
O. Tremblay	36 00
P. Tobin	402 58
J. M. Tarlevil	24 00
E. E. Buteau	12 20
5,059 04	
<i>Red Island Light Ship.</i>	
Making sails.....	398 98
Iron, paint, &c.....	151 65
Rivets, &c.....	101 06
Iron, anvils, &c.....	79 33
Rope, &c.....	43 21
Paint brushes, &c.....	22 05
Lumber	1 00
do	24 45
Pulleys	2 50
Vien & Hammond	25 48
Towage	10 00
do	6 00
Advertising	11 20
Carriage	8 55
Telescopes	10 70
Tallow	28 44
Metal, &c.....	2 78
Moorage	10 00
Glass Diamond	11 23
Petty Disbursements	4 65
Iron Work	121 86
do	16 41
Wages of Workmen	91 50
Carried forward.....	

APPENDIX 9.—STATEMENT of Expenditure for Construction of Lighthouses, Fog Whistles and Light Ships throughout the Dominion, during the Fiscal Year ended 30th June, 1872.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
H. Talbot & Co.....	<i>Brought forward</i>			
	<i>Red Island Lightship.</i> —Continued.			
	Sundries.....	10 12	1,235 13	
	<i>Cape Norman Lighthouse.</i>			
J. B. Spence.....	Balance of contract and extras.....	4,562 66		
do.....	Freight on supplies.....	50 00		
E. Chanteloup.....	Oil cups, &c.....	10 00		
L. Gagné.....	Ladder.....	4 08		
	<i>Manitouagan Light Ship.</i>		4,635 74	
Richardson, Duck & Co.....	Amount of contract for Iron Light Ship, £4,200 stg.	20,440 00		
J. Hays & Co.....	Outfit and cost of bringing vessel to Canada.....	5,961 64		
Felthausen & Russell.....	Lamps, &c.....	67 00		
W. M. Smith.....	Plans and Tracings.....	50 00		
J. Carroll.....	Advertising.....	6 00		
W. H. Tuck.....	Drawing up Contract, &c.....	23 33		
	<i>General Account.</i>		26,546 97	
Joseph Tomlinson.....	Travelling Expenses and Disbursements in Superintending construction of Lights.....	300 00		
B. Billings.....	Wages as Draughtsman.....	490 00		
Canadian Express Company.....	Freight.....	8 40		
S. McLaughlin.....	Photographing Plans.....	50 00		
Brady & Co.....	Lantern, &c.....	125 79		
Felthausen & Russell.....	Shade Glass.....	27 18		
Thomas Maltby.....	Labor, Freight, &c.....	335 97		
J. Lovesque.....	Labor.....	50 00		
		1,387 34	54,496 43	

P. G. S. J. 'ier	For Advertising	16
T. H. P. milx	do	9 60
Liaetta & Poitras	do	15 36
do	do	5 40
do	do	7 00
T. Carroll	do	165 76
J. J. Foote	do	21 60
C. L. Tourniquant	do	6 00
W. B. Jones	do	19 12
A. Côté & Co.	do	31 92
G. T. Carey	do	18 48
Poitras & Co.	do	17 50
Telescope	do	8 00
T. Fleet	Stationery	3 40
P. G. Desbarats	do	512 43
Middleton & Dawson	do	12 00
J. Haws & Co.	Plate glass	106 02
H. Flammond	Customs entries	66 15
E. Chanteloup	Circular burner, &c.	10 17
S. Beffard	Powder, powder canisters, &c.	19 50
J. B. Trudell	Putty nails, &c.	89 81
W. Crawford & Co.	Coal	92 50
E. E. Buteau	Telegraphing earlargo, &c.	344 58
L. Gagné	Building shed, South Point, Anticosti	22 50
Archer & Co.	do	63 90
J. Auld	Lumber for do	169 00
L. Gagné	Building sheds at Seven Islands and Upper Traverse Light Ship	13 20
A. Rivierin	do	34 52
K. E. Buteau	Passage of workmen	47 00
Receiver General	Sundry expenses	42 00
Archer & Co.	Unexpended balance refunded	
	Lumber	3,368 92
		57,865 35
Jos. White	For Contract and extras	878 30
E. Chanteloup	Lamps, &c., &c.	177 55
		1,055 85
R. Cameron	For Balance of contract	125 00
	Telegraph Island Lighthouse.	
R. Cameron	On Account of contract	1,017 00
	Salmon Point Lighthouse.	
	Carried forward	

APPENDIX 9.—STATEMENT OF Expenditure for Construction of Lighthouses, Fog Whistles and Lightships throughout the Dominion, during the Fiscal Year ended 30th June, 1872.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>			
	<i>Salmon Point Lighthouse.—Continued.</i>			
E. Chanteloup.....	For Lamps, &c.....	287 84		
D. Smith.....	Glass, &c.....	8 87	1,913 71	
	<i>Middle Island Lighthouse.</i>			
R. Sutton.....	On Account of contract.....		1,300 00	
	<i>New Lights, Lake Superior.</i>			
C. Garth & Co.....	For Lanterns, &c.....		772 50	
	<i>General Account.</i>			
J. Hays & Co.....	For Plate glass.....	397 70		
B. Billings.....	Services as draughtsmen.....	240 00		
J. Tomlinson.....	Travelling expenses.....	335 00	973 39	
	<i>NEW BRAUNSWICK.</i>			
	<i>Southern Wolves Lighthouse.</i>			
P. Carroll.....	For Contract and extras.....	2,791 35		
B. Chanteloup.....	Lantern, revolving apparatus, &c.....	1,783 25		
D. T. O'Dell.....	Lighthouse supplies.....	272 17		
T. Boyd.....	Freight.....	30 00		
W. H. Teak.....	Drawing up contract papers.....	23 33		
J. McAvity.....	Hardware.....	17 49		
J. A. McCallum.....	Surveying.....	11 00	4,898 59	

<i>Reeoon Block, St. Andrew's.</i>				
Ross & Gunnison.....	For Amount of contract.....	1,000 00		
W. Whitlock	Superintending	75 00		1,075 00
<i>Bliss Harbour, Lighthouse.</i>				
P. Carvell.....	For Contract and extras	1,000 75		
M. Chanteloup	Lantern, &c.....	229 78		
C. Garth & Co.....	Ventilator.....	17 00		
Wm. Cline	Boat Hire.....	18 00		
J. Byrd	Freight	10 00		
W. H. Tuck	Contract papers.....	23 33		1,378 86
<i>Cassie's Point Lighthouse.</i>				
J. Tait.....	On account of contract.....			800 00
<i>Altwick Lighthouse.</i>				
E. Chanteloup.....	Lamps, &c			176 23
<i>Fox Island Beacon.</i>				
R. R. Call.....	On account of contract.....			530 14
<i>General Account.</i>				
Roanmel, Bros.....	Freight on glass.....	22 47		
J. Hays & Co.....	Plate-glass.....	547 85		
J. Mitchell.....	Expenses in locating sites of lighthouses.....	126 00		696 32
<i>NOVA SCOTIA.</i>				
<i>Sable Island Fog Whistle.</i>				
J. W. Fraser.....	On account of contract.....	3,000 00		
W. M. Smith.....	Plans and tracings	19 00		3,019 00
<i>Carried forward.....</i>				
				9,555 14

APPENDIX 9.—STATEMENT of Expenditure for Construction of Lighthouses, Fog Whistles and Lightships throughout the Dominion, during the Fiscal Year ended 30th June, 1872.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>			
	<i>Digby Fog Whistle.</i>			
W. M. Smith.....	Plans and tracings.....	19 00		
T. Daley.....	On account of contract for engine house.....	1,730 00		
G. Fumming & Sons.....	Contract for fog whistle.....	1,900 00		
do.....	Extras.....	85 20		
J. Mitchell.....	Expenses of superintending construction, and wages paid workmen.....	69 00		
J. McAvity & Sons.....	Iron pipe.....	93 00		
J. G. Gable.....	Hose, rubber pipes, &c.....	669 58		
D. Small.....	Freight.....	28 00		
W. M. Smith.....	Expenses in connection with water-supply.....	144 00		
			4,738 28	
	<i>Briar Island Fog Whistle.</i>			
W. M. Smith.....	Plans and tracings.....	51 90		
J. Daley.....	On account of contract for engine house.....	2,000 00		
J. Mitchell.....	Expenses of superintending work.....	82 00		
			2,133 90	
	<i>St. Paul's Island Fog Whistle.</i>			
W. M. Smith.....	Plans and tracings.....	19 00		
J. Bowser.....	On account of contract for engine house.....	430 00		
			449 00	
	<i>Sable Island Lighthouses.</i>			
P. Carvell.....	On account of contract.....	6,800 00		
E. Albro & Co.....	Freight on cement.....	160 00		
F. A. White & Co.....	Wharfage of cement.....	6 25		
St. Cunard & Co.....	Freight on lighting apparatus.....	25 09		
			6,991 75	
	<i>Sydney Harbour Lighthouse.</i>			
J. N. Leslie.....	On account of contract.....	448 00		

E. Chanteloup.....	Lamps &c.....	164 18		
G. P. Black.....	Freight.....	3 30		617 98
<i>Cheticamp Lighthouse.</i>				
A. P. McNeil.....	On account of contract.....	1,500 00		
E. Chanteloup.....	Lantern, &c.....	761 37		2,261 37
<i>Chibucto Lighthouse.</i>				
J. Bowser.....	On account of contract.....			00
<i>West Arichat Lighthouse.</i>				
F. S. Cunningham.....	On account of contract.....	650 00		
C. Garth & Co.....	Lantern, &c.....	378 00		
E. Chanteloup.....	Lamps, &c.....	282 55		1,320 55
<i>Country Harbour Lighthouse.</i>				
J. McDonald.....	On account of contract.....	950 00		
C. Garth & Co.....	Lantern, &c.....	373 00		1,323 00
<i>Canso Lighthouse.</i>				
F. S. Cunningham.....	On account of contract.....	617 00		
E. Chanteloup.....	Lamps, &c.....	197 42		814 42
<i>Carter's Island Lighthouse.</i>				
J. W. Hayden.....	Contract.....	460 00		
E. Chanteloup.....	Lamps, &c.....	91 80		551 80
<i>Liscomb Lighthouse.</i>				
D. J. Ferguson.....	On account of contract.....	800 00		
E. Chanteloup.....	Revolving apparatus.....	1,628 78		
do.....	Lantern, &c.....	884 24		
J. S. Symonds & Co.....	Trap door.....	5 25		2,718 27
<i>Carried forward.....</i>				

APPENDIX 9.—STATEMENT of Expenditure for Construction of Lighthouses, Fog Whistles, and Lightships throughout the Dominion, during the Fiscal Year ended 30th June, 1872.—*Continued.*

TO WHOM PAID.	SERVICE,	\$ cts.	\$ cts.	\$ cts.
	<i>Brought forward.....</i>			
	<i>Port L'Herbert Lighthouse.</i>			
G. S. Parker.....	Contract.....	465 00		
E. Chanteloup.....	Lamps, &c.....	91 80	556 80	
	<i>Mahone Bay Lighthouse.</i>			
Hopps & Brown.....	On account of contract.....	126 66		
E. Chanteloup.....	Lamps, &c.....	200 92	327 58	
	<i>Negro Island Lighthouse.</i>			
J. D. Coffin.....	On account of contract.....	421 75		
E. Chanteloup.....	Revolving apparatus.....	421 51	843 26	
	<i>General Account.</i>			
T. A. DeWolf & Son.....	Freight on plate glass.....	47 17		
J. Hays & Co.....	Invoice of do.....	1,121 07		
W. H. Tuck.....	Drawing agreements.....	93 32		
W. S. Symonds & Co.....	Construction of buoys.....	705 55	1,907 11	
	To amount transferred from Maintenance of Lights.....		1,999 11	
				34,718 21
				108,279 15

DEPARTMENT OF MARINE AND FISHERIES,
2nd January, 1873.

WM. SMITH,
Deputy of Minister of Marine, &c.

APPENDIX No. 10.

REPORTS OF THE MARINE HOSPITALS AT ST. JOHN AND ST. ANDREW'S, NEW BRUNSWICK, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1872.

MARINE HOSPITAL, ST. JOHN, N.B.

St. JOHN, December, 1872.

SIR,—The undersigned Commissioners in charge of the Marine Hospital for the Port of St. John, New Brunswick, respectfully present their Annual Report for the year ended 30th June, 1872.

On the 1st July, 1871, there remained in Kent Hospital eight seamen under medical charge.

One hundred and eighty-one seamen were admitted, making one hundred and eighty-nine sick and disabled seamen under medical treatment in the Kent Hospital for the year ended 30th June, 1872.

Of this number eight seamen died. Thirteen left the Hospital without discharge. Two with typhoid fever were sent down to the Pest House. One hundred and fifty-three were duly discharged from the Hospital, and thirteen remained under medical treatment on the 1st July, 1872.

Your Commissioners here beg to note that the number admitted this year exceeded by seventy-two for the same period over that of the preceding year, 1871—and that a great portion of the excess mainly arose from the increased severity of the past winter—from frozen limbs, frost bites, &c. Some of these cases were very severe, and tedious to attend. One poor fellow was obliged to have both legs amputated. This year's mortality from the severity of the winter places our loss in the Hospital something exceeding our previous reports.

At the Pest House, Partridge Island, there were only four cases of infectious disease—two came from the Kent Hospital with typhoid of a severe kind, and two cases of small pox from quarantine. All were discharged cured and convalescent.

The Commissioners duly rendered their quarterly accounts of expenditure for Hospital maintenance, &c., together with vouchers, and payments from your Department for same amounts were duly received. The expenditure for the fiscal year amounts to four thousand four hundred and seventy-one dollars and twenty cents.

The expenditure this year exceeded the previous one in the sum of four hundred and thirty-four dollars and seventy-seven cents, and was mainly incurred by the severity of the past winter, the excess of admissions from frozen limbs, &c., requiring protracted medicine and attention, and incurred hospital expenditure; consequently the excess of expenditure increased, and comparatively for the March quarter, exceeded that of the previous one in the sum of four hundred and fourteen dollars.

Your Commissioners have much satisfaction to report, although the comparative average of deaths in the Kent Hospital exceeds those of their previous reports, yet they are convinced that the steady supervision of the Hospital, and those in charge of these duties have commanded their entire approval, being conducted with the most efficient order, amply conducive in medical treatment and hospital attendance for recovery and comfort of sick and disabled seamen received in our Hospitals.

As regards the premises, the old buildings are kept in good serviceable repair, and are comfortable for present requirements. The grounds are improved and well kept and arranged, greatly beneficial to the comfort of convalescents.

All of which is respectfully submitted.

JOHN WARD,
JOHN WISHART,
W. DOHERTY,
C. M. McLAUCHLAN,) *Commissioners.*

THE HON. P. MITCHELL,
Minister of Marine and Fisheries.

MARINE HOSPITAL, ST. ANDREW'S, N.B.

ST. ANDREW'S December 13th, 1872.

SIR,—I have the honor to submit you my Annual Report, as Medical Superintendent of the Marine Hospital, from July 1st, 1871, to June 30th, 1872.

There were the usual number of admissions to the Hospital, all of which were discharged, but in consequence of the loss of the record book at the time the Hospital was burned, I am at a loss for more minute details though unimportant in themselves.

Expenditure for above period.

To quarter ended 30th Sept., 1871.....	\$219 47
" 31st Dec., 1871.....	152 08
" 31st March, 1872.....	216 13
" 30th June, 1872.....	180 85
	\$768 53

Of this amount the sum of \$118.83 was expended on repairs.

Receipts for above period.

By cash per J. H. Harding, Esq., Agent of Department of Marine and Fisheries at St. John, for the above quarterly sums respectively..... \$768.53

On the 7th September this Marine Hospital was totally consumed, but a considerable portion of the furniture and effects was saved. The sum of \$1,400 was insured upon the Hospital, and is now available for reconstruction, should the Department conclude upon so doing. This amount, however, would prove quite insufficient for the purpose, as from the central position enjoyed by St. Andrew's (open at all seasons of the year) as regards the other parts of the county, it would be at once apparent that a building of equal capacity, at least, of the original one, would be required to meet the wants of the service; and, therefore, I would respectfully recommend its early reconstruction on its former eligible site.

In the meantime, a temporary building has been rented for a few months, which has met the approbation of the Honorable the Minister of Marine and Fisheries.

As the above remarks, having a subsequent bearing, do not come strictly within this annual report, yet I have thought it advisable to append them for the information of the Department and Government.

I have, &c.,

(Signed,)

S. T. GOVE,

WILLIAM SMITH, Esq.,

Medical Superintendent.

Deputy of Minister of Marine and Fisheries.

APPENDIX No. II.

STATEMENT of Expenditure on Account of Marine Hospitals, sick and disabled seamen, and shipwrecked and distressed seamen, for the Fiscal Year ended 30th June, 1872.

PROVINCE OF NEW BRUNSWICK.			
<i>Marine Hospital, St. John.</i>		\$ cts.	\$ cts.
L. B. Botsford	Twelve months salary as Physician.....	560 00	
G. J. Harding	do do do of Pest House,		
	Partridge Island.....	100 00	
Rev. W. Armstrong.....	Twelve months' salary as Chaplain.....	100 00	
C. Ward	do do do Secretary.....	400 00	
J. Bryden.....	Bread " "	174 84	
W. Boukhout	Meat	294 64	
Jardine & Co.	Groceries	242 12	
M. Barnes.....	Milk, potatoes, &c.....	221 05	
do	Twelve months' wages as Steward.....	\$300 00	
do	do do of Matron.....	80 00	
do	Allowance for board	73 00	
do	do do of Matron	73 00	
do	Twelve months' wages of Cook.....	48 00	
do	Sundries.....	23 63	
		\$597 63	
	Less provisions used.....	31 58	
		566 05	
A. P. McGivern.....	Coal.....	260 62	
J. McAllister.....	Wood	60 80	
A. Riley.....	do	16 60	
Water Company.....	Water tax.....	50 00	
Gas Company.....	Gas bill	54 60	
Eliza Fisher.....	Washing.....	93 30	
J. Sears	Medicines.....	132 84	
C. A. Barnes	Wages and board as nurse.....	288 00	
Mrs. Harpur	Attending on sick seamen.....	16 42	
H. Powers.....	Assistant nurse.....	60 00	
B. Doherty.....	Nurse at Pest House	39 94	
R. A. Moore.....	Making coffins.....	45 00	
J. Buck	Hearse hire.....	31 00	
Cemetery Board	Burial fees	14 00	
Burton Brothers	Wine, porter, &c.....	24 05	
Isaac White	Gardener	77 50	
C. H. Wright & Co.	Ensign.....	22 00	
O. Riley and others.....	Repairs.....	17 30	
Clark & Stackhouse	do	49 50	
J. O. Brine	Wood	3 50	
P. O. Brine	Labor on coal.....	3 60	
D. McKnight.....	Repairs.....	8 40	
C. Ballock.....	Earth closet	22 50	
J. Mullin.....	Straw	12 10	
J. McLaughlin.....	Labor in garden.....	75 00	
J. Murphy	do do	3 37	
A. G. Eows	Tinware	30 24	
Barnes & Co.	Printing, &c.....	22 60	
McKenzie & Co.	Sheeting, bedding, &c.....	75 27	
P. Riley.....	Cartage.....	2 00	
C. Chalmor	Seeds	1 97	
M. Barnes and others.....	Labor, &c.....	22 27	
Allan Brothers	Cook stove, &c.....	34 84	
C. Ward.....	Fire insurance.....	32 00	
	Carried forward.....		

STATEMENT of Expenditure on Account of Marine Hospitals, &c.—Continued.

PROVINCE OF NEW BRUNSWICK.—Continued.		\$ cts.	\$ cts.
<i>Brought forward</i>			
<i>Marine Hospital, St. John.—Continued.</i>			
H. & J. A. White.....	Crockeryware	10 75	
G. Anderson.....	Earth closet	26 00	
McAvity & Sons.....	Iron ware	4 60	
W. Patterson.....	Iron work	3 20	
J. D. Gall.....	Water pipe, &c.	1 35	
M. Barnes.....	Manure	15 00	
W. Elder.....	Subscription to "Telegraph"	5 00	
E. Willis.....	Subscription and Advertising in "Daily News"	10 50	
T. W. Anglin.....	Advertising in "Freeman"	9 50	
M. Wilson.....	Scrubbing	2 10	
D. McKnight.....	Whitewashing	21 37	
			4,471 20
<i>Marine Hospital, Richibucto.</i>			
D. M. Wilson	Medical attendance for fiscal year ended 30th June, 1871.....	100 00	
do	Medicine from 30th June, 1869, to 30th June, 1871.....	113 40	
do	Medical attendance, medicine, and maintenance of sick seamen, for fiscal year ended 30th June, 1871.....	603 02	
do	Fuel	107 00	
L. Graham.....	Sundry supplies.....	173 43	
			1,096 85
<i>Marine Hospital, Miramichi.</i>			
J. Thomson	Twelve months' salary as Physician	200 00	
do	Medicine	2 00	
M. M. Garnet.....	Knives, plates, &c.	8 14	
P. Lawlor.....	Boarding and attending sick seamen	363 64	
J. Tesseman.....	Coffin	4 00	
W. Mason.....	Blankets, sheets, &c.	70 26	
G. U. Blair.....	Expenses incurred in connection with crew of <i>Lothair</i> , (Small Pox).....	433 09	
			1,061 13
<i>Marine Hospital, St. Andrews.</i>			
M. A. Day	Twelve months' wages as Matron.....	208 00	
do	Board and care of sick seamen.....	131 41	
J. McMillan.....	Wood and cartage	28 30	
Robinson & Glenn	Shingles	20 47	
R. Ross	do	14 45	
O. Conly	Truckage and labour	18 60	
S. T. Gove.....	Hauling wood	12 20	
do	Twelve months' salary as Physician	200 00	
do	Signal halyards	1 10	
do	Oil, &c.	1 19	
do	For insurance	17 50	
do	Straw	2 00	
E. L. Andrews and others	Wood	10 50	
A. Hennen.....	Culling wood	7 50	
A. Campbell.....	Repairing fence	65 31	
			768 53
<i>Marine Hospital, Harvey.</i>			
P. Palmer.....	Medical attendant.....	46 10	
P. R. Moore.....	do	23 50	
L. Layton.....	Board and care of sick seamen.....	18 00	
H. Bishop.....	do do	92 24	
John Cameron.....	do do	98 00	
C. Dickson.....	do do	24 00	
J. Brewster.....	Supplies	83 60	
			395 44
<i>Carried forward</i>			

STATEMENT of Expenditure on Account of Marine Hospitals, &c.—Continued.

PROVINCE OF NEW BRUNSWICK.—Continued.		\$ cts.	\$ cts.
Brought forward			
Marine Hospital, Hillsborough.			
J. S. Gross.....	Medical attendance and board of sick seamen	77 28	
W. Wallace	Board of sick seamen.....	198 45	
			275 73
Marine Hospital, Bathurst.			
S. L. Bishop.....	Medical attendance.....	80 00	
Ferguson, Rankin & Co.	Supplies.....	83 68	
Jane Miller.....	Boarding, &c., sick seamen	101 50	
A. Miller.....	Nurse	8 00	
do	Fuel.....	10 00	
John Ferguson	Commission for superintendence.....	28 31	311 49
H. Baldwin			
Marine Hospital, Shediac.			
C. S. Theal.....	Medical attendance and medicine.....		173 00
Marine Hospital, Buctouche.			
H. E. W. Pouliot.....	Medical attendance.....		66 50
Marine Hospital, Hopewell.			
J. Carnworth.....	Expenses in connection with sick seamen		72 32
			8,712 19
Shipwrecked and Distressed Seamen,			
D. Bridgers	Boarding distressed seamen	8 75	
W. Saunders	do do	8 62	
Mrs. Lerdy.....	do do	2 25	
P. Fuller.....	do do	6 60	
J. Reed.....	do do	102 12	
Small & Hatheway.....	Passages of seamen.....	21 75	
L. Carvell	do	2 90	
J. H. Harding.....	do	8 90	
J. S. Sullivan	do	2 16	
J. S. May.....	Clothing.....	21 00	
J. D. Dixon.....	Board and other expenses of distressed seamen	37 50	
			222 55
PROVINCE OF NOVA SCOTIA.			
Sick and Disabled Seamen.			
J. Harley	Expenses of sick seamen at Lahave.....	93 98	
D. McCullough.....	do do Pictou	445 05	
J. McNab.....	do do Pugwash	40 97	
J. Donaven	do do Arichat	262 22	
W. W. Bown	do do Cow Bay	264 60	
A. S. Townshend.....	do do Parrsboro.....	168 07	
E. O. Brien	do do Windsor.....	26 40	
T. S. Bown	do do Sydney	459 06	
C. E. Leonard.....	do do do	730 71	
W. J. Bigelow.....	do do Canso	48 00	
E. Rand.....	do do Cornwallis.....	1 75	
			8,934 74
Carried forward.....			

STATEMENT of Expenditure on Account of Marine Hospitals, &c.—Continued.

PROVINCE OF NOVA SCOTIA.—Continued.			\$ cts.	\$ cts.
<i>Brought forward</i>				
<i>Sick and Disabled Seamen.—Continued.</i>				
B. Viets.....	Expenses of Sick Seamen at Digby.....		84 92	
C. V. Rawding.....	do do Canada Creek.....		118 00	
G. Stalker.....	do do Lockport.....		9 00	
A. Fraser.....	do do Sheet Harbor.....		8 00	
J. L. Letson.....	do do Port Medway.....		97 00	
W. Muir.....	do do Shelburne.....		19 50	
J. Rosa.....	do do Margaree.....		228 37	
E. Dawling.....	do do Lunenburg.....		36 75	
F. F. Hatfield.....	do do Ratchford River.....		11 00	
E. D. Tremain.....	do do Port Hood.....		112 44	
L. Johnston.....	do do Port Caledonia.....		7 00	
J. H. Liddell.....	do do Halifax.....		2,384 99	
T. R. Almon.....	do do do.....		19 00	
J. Swaine.....	do do Port La Tour.....		184 00	
J. H. Freeman.....	do do Liverpool.....		155 01	
W. Davidson.....	do do do.....		30 50	
A. M. Parker.....	do do Walton.....		21 00	
J. Muir.....	do do North East Harbor.....		130 00	
S. Westhaven.....	do do do.....		28 00	
T. A. Malcolm.....	do do Cheverie.....		65 75	
R. Sanderson.....	do do Port Gilbert.....		92 00	
T. E. Moberly.....	do do Yarmouth.....		55 50	
T. C. Tobias.....	do do Annapolis.....		27 50	
Overseers of Poor.....	do do do.....		10 95	
J. J. Kerr.....	do do Amherst.....		22 50	
				6,494 49
<i>Distressed Seamen.</i>				
W. Ross.....	Boarding Distressed Seamen.....		5 00	
P. Buoppin.....	do do.....		10 50	
D. Taple.....	do do.....		74 50	
Gastongay & Co.....	do do.....		16 50	
M. Burke.....	do do.....		7 75	
J. H. Freeman.....	do do.....		22 60	
D. MacCulloch.....	do do.....		4 80	
G. Rowlings.....	do do.....		2 75	
R. H. Ruggles.....	Clothing &c. for do.....		279 31	
B. Fulker.....	do do.....		15 50	
P. Grant & Co.....	do do.....		240 70	
Captain J. Shaw.....	Conveyance and subsistence of distressed Seamen.....		11 70	
P. Joice.....	do do.....		16 00	
R. Imree.....	do do.....		4 75	
E. Rand.....	do do.....		17 03	
G. M. Perling.....	do do.....		7 00	
J. Post.....	do do.....		20 00	
T. Archibald.....	do do.....		22 00	
E. Pinkham.....	do do.....		30 00	
J. Beck.....	do do.....		26 15	
Captain Peters.....	do do.....		10 00	
R. Tobin.....	do do.....		52 00	
J. Farquhar.....	do do.....		5 11	
A. & H. Creighton.....	do do.....		20 00	
J. H. Smith.....	do do.....		36 50	
E. Dowling.....	do do.....		7 59	
A. Leblanc.....	do do.....		43 04	
L. Diamond.....	do do.....		4 38	
H. W. Johnston.....	do do.....		9 51	
J. & R. B. Seaton.....	do do.....		1 10	
R. Johnston.....	do do.....		9 85	
J. Collins.....	do do.....		5 00	
J. J. Langston.....	do do.....		16 00	
<i>Carried forward</i>				6,494 49

STATEMENT of Expenditure on Account of Marine Hospitals, &c.—Continued.

PROVINCE OF NOVA SCOTIA.—Continued.		\$ cts.	\$ cts.
<i>Brought forward</i>			
<i>Distressed Seamen.</i> —Continued.			
J. McDonald.....	Conveyance and subsistence of Distressed Seamen...	7 67	
C. Dickson.....	do do do	4 00	
Archibald & Co.....	do do do	7 50	
F. D. Corbett & Co.....	do do do	5 84	
D. H. Pitts.....	do do do	15 00	
J. F. Phelan.....	do do do	3 00	
M. McDonald.....	do do do	11 00	
D. Hunter.....	do do do	10 57	
G. Nichols.....	do do do	5 00	
A. Nicholson.....	do do do	7 50	
C. H. Innes.....	do do do	16 79	
W. Romkey.....	do do do	5 84	
J. Ross.....	do do do	20 00	
do.....	Expenses of wrecked crew of <i>Victoria Ursula</i> at Cape Breton.....	171 65	
S. S. Thorne.....	Expenses of crew of <i>Phæbe Ellen</i>	199 42	
T. E. Moberly.....	do do <i>Hibernia</i>	217 42	
do.....	Conveyance and subsistence of Distressed Seamen.....	8 76	
A. Donovan.....	do do do	65 30	
T. E. Moberly.....	do do do	7 34	
D. Sargent.....	do do do	27 00	
			1,876 2
			8,370 71
PROVINCE OF ONTARIO.			
J. R. Benson.....	Legislative grant to Marine Hospital at St. Catharines.....		500 00
PROVINCE OF QUEBEC.			
<i>Sick and Disabled Seamen.</i>			
J. J. Fox.....	Expenses of Sick Seamen at Amherst, Magdalen Islands.....	15 00	
P. L. Gauveau.....	do do Rimouski.....	14 10	
J. Fraser.....	do do New Carlisle.....	274 40	
B. Barland.....	do do St. Johns.....	146 00	
J. C. Belleau.....	do do Gaspé.....	120 50	
J. W. Dunscomb.....	do do Chicoutimi.....	25 50	
Dr. S. Roy.....	Medical Attendance on Sick Seamen of the <i>Alma</i>	36 00	
do.....	do do do <i>Viola</i>	18 00	
do.....	do do do at Port St. Joli.....	210 00	
A. Ferguson.....	Expenses of Sick Seamen at the General Hospital, Montreal.....	2,452 80	
			3,312 70
<i>Distressed Seamen.</i>			
Board of Trade, England.....	Expenses of shipwrecked crew of the <i>Nimrod</i>	45 50	
do do.....	do do <i>Southern Cross</i>	121 22	
do do.....	do do <i>Callie Allie</i>	19 71	
do do.....	do do <i>Catherine John</i>	48 54	
do do.....	do do <i>Minnie Arnold</i>	18 49	
do do.....	do do <i>Beacon Light</i>	420 17	
do do.....	do do <i>Valiant</i>	197 52	
do do.....	do do <i>Albert Ross</i>	18 49	
do do.....	do do <i>Harriette</i>	37 22	
do Quebec.....	Expenses for shipwrecked Seamen in the Lower St. Lawrence.....	769 50	
<i>Carried forward</i>		1,696 35	3,812 70

STATEMENT of Expenditure on Account of Marine Hospitals, &c.—*Concluded.*

PROVINCE OF QUEBEC.—Continued.		\$ cts.	\$ cts.
<i>Brought forward</i>		1,696 36	3,812 70
<i>Distressed Seamen.</i> —Continued.			
J. W. Dunscomb	Expenses for shipwrecked seamen in the Lower St. Lawrence	100 50	
J. U. Gregory.....	Clothing for shipwrecked seamen, and railway fares from Quebec to Portland	342 70	
Lucien LeGrès.....	Rescuing shipwrecked crew of <i>Alma</i>	35 00	
C. Grimshaw & Co.....	Expenses for do do <i>W. H. Moody</i>	26 45	
F. Gauthier	do do <i>Three Sisters</i>	158 50	
B. Lizotte.....	do do <i>Chryseis</i>	58 50	
			2,418 01
			6,230 71

RECAPITULATION.

Sick and Disabled Seamen for Province of New Brunswick.....	8,712 19	
do do do Nova Scotia	6,494 49	
do do do Quebec.....	3,312 70	
Legislative Grant to St. Catharines' Hospital, Ontario	500 00	19,019 38
Shipwrecked and Distressed Seamen for Province of New Brunswick.....	222 55	
do do do Nova Scotia.....	1,876 22	
do do do Quebec	2,418 01	4,516 78
		23,536 16

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, 2nd January, 1873.

APPENDIX No. 12.

STATEMENT of Receipts on Account of Sick Mariners' Fund for the entire Dominion, for the Fiscal Year ended 30th June, 1872.

PROVINCE OF QUEBEC.

NAME OF PORT.	Quarter ending 30th September, 1871.	Quarter ending 31st December, 1871.	Quarter ending 31st March, 1872.	Quarter ending 30th June, 1872.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Gaspé.....	37 70	42 68		46 72	127 10
Magdalen Islands.....	2 16	2 50		11 04	15 70
Montreal.....	1,202 76	1,028 44		708 90	2,940 10
New Carlisle.....	58 04	49 42		40 80	148 26
Philipsburg.....	1 02			3 34	4 36
Quebec.....	5,307 80	2,642 14	96 08	6,545 68	14,591 70
Rimouski.....	111 96	28 00		44 76	184 72
St. Johns.....	736 70	355 20		84 60	1,176 50
Stanstead.....	12 12				12 12
Three Rivers.....					
Perceé.....				16 48	16 48
	7,470 26	4,148 38	96 08	7,502 32	19,217 04

PROVINCE OF NEW BRUNSWICK.

Bathurst.....	44 72		14 94	65 94	125 60
Bay Verte.....	31 44			4 10	35 54
Campo Bello.....	23 94	13 34	5 47	25 76	68 51
Caraguet.....		5 42			5 42
Chatham.....	628 28	165 62		452 50	1,246 40
Dalhousie.....	50 20	49 52		55 22	154 94
Dorchester.....	53 42	4 44		4 16	62 02
Fredericton.....					
Hillshoro'.....	71 82	7 48		5 36	84 66
Moncton.....	5 20	50			5 70
Newcastle.....	210 42	146 60		169 54	526 56
Richibucto.....	105 92	18 98		138 60	263 50
Sackville.....	20 20	7 68		14 02	41 90
Shediac.....	136 26	6 44		33 60	176 30
Shippegan.....		4 64		3 84	8 48
St. Andrews.....	61 60	14 26	5 76	1 26	82 88
St. George.....	44 08	38 06	5 20	62 60	149 94
St. John.....	1,754 86	725 12	498 88	1,511 40	4,490 26
St. Stephens.....	28 74	23 00		66 70	118 44
West Isles.....		7 22	4 54	4 40	16 16
	3,271 10	1,238 32	534 79	2,619 00	7,663 21

STATEMENT of Receipts on Account of Sick Mariners' Fund, &c.—*Concluded.*

PROVINCE OF NOVA SCOTIA.

NAME OF PORT.	Quarter ending 30th September, 1871.	Quarter ending 31st December, 1871.	Quarter ending 31st March, 1872.	Quarter ending 30th June, 1872.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Amherst	29 46	85 88	19 02	43 02	177 38
Annapolis	55 20	12 82	9 02	29 96	107 00
Antigonish	6 20			3 56	9 76
Arichat	69 40	25 06		30 14	124 60
Baddeck	21 54	2 86			24 40
Barrington	18 08	4 00	9 78	11 70	43 56
Bridgetown	4 36	1 38		50	6 24
Cornwallis	16 30	13 80			30 10
Digby	38 16	27 64	12 62	29 46	107 88
Halifax	739 70	483 54	787 08	1,000 62	3,010 94
Liverpool	125 24	52 60	96 52	72 72	347 08
Lockeport	24 90	1 98	3 98	7 06	37 92
Londonderry	8 58	3 46			12 04
Lunenburg	33 86	32 88	29 74	63 12	159 60
Margaretville			8 62	3 54	12 16
North Sydney	83 60	140 20	34 94	114 04	372 78
Parrsboro'	28 86	2 24	2 80	37 50	71 40
Pictou	630 66	115 23		293 00	1,038 89
Port Hawkesbury	23 54	4 46		21 04	49 04
Port Hood				1 14	1 14
Port Medway	28 44	17 14	36 74	32 08	114 40
Port Mulgrave				54 46	54 46
Sydney	811 66	123 34		197 44	1,132 44
Weymouth	36 42	3 90	3 02	16 52	59 86
Windsor	233 02	111 98		224 70	589 70
Yarmouth	61 92	108 92	117 18	48 60	336 62
	3,149 10	1,375 31	1,171 06	2,335 92	8,031 39

RECAPITULATION.

Quebec	7,470 26	4,148 38	96 08	7,502 32	19,217 04
New Brunswick	3,271 10	1,238 32	534 79	2,619 06	7,663 21
Nova Scotia	3,149 10	1,375 31	1,171 06	2,335 92	8,031 39
	13,890 46	6,762 01	1,801 93	12,457 24	34,911 64

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, 2nd January, 1873.

APPENDIX No. 13.

REPORT ON MONTREAL WATER POLICE FOR THE FISCAL YEAR ENDED 30TH JUNE, 1872.

OFFICE COMMISSIONER DOMINION POLICE,
MONTREAL, January, 1872.

SIR,—I have the honor to submit herewith for the information of the Minister of Marine and Fisheries a return of the number of prisoners arrested by the Montreal Water Police, during the fiscal year ended 30th June, 1872.

The authorized number of constables (20) were sworn in on the 22nd April, 1872, and disbanded 30th November, on the close of the navigation.

It will be seen that the number of prisoners arrested for various offences was six hundred and thirty-seven, being an increase of seventy-seven over that of the previous year.

There were two hundred and sixty persons temporarily sheltered and protected, an increase, I regret to say, of thirty-six over the preceding year.

It is sad to have to record the number of lives lost annually by drowning. This year no less than twenty-three persons perished either in the harbor or canal, while those rescued from a similar fate amounted to sixty individuals. Among the latter were sixteen hands, comprising the crew of a raft which came into collision with one of the piers of the Victoria Bridge, and was broken up. These men had a narrow escape, and were mainly rescued by boats procured by the police. On this head may I be permitted to suggest that a small but safe row-boat should be attached to the station. The absolute need of such will be perceived at once, and I trust the Department will give the subject consideration.

Twenty-three persons who were severely injured by accidents on board ship and on the wharves were conveyed by the police to the General Hospital, or (in some cases) to their homes, while assistance was rendered to a considerable number whose hurts were not of a serious character.

Eight fires took place during the year in the locality under the supervision of the Water Police. Of these, seven occurred among cargoes which had been landed on the wharf, or partially landed, and one occurred in a factory on the south side of the canal. The alarm was in seven instances given by the police, and in all the cases they gave every assistance in their power to extinguish the flames, and with considerable success. Amongst the fires, alluded to, one originated in July on the Russell Pier among some lumber belonging to the Harbor Commissioners, but was soon quenched by the police on duty.

Among the numerous incidents that annually occur, and which are not deemed of sufficient importance to be submitted, it may be well to state that a woman attempted to commit suicide by jumping into the canal, but was rescued and carried to the station. On her person was found a Savings Bank pass-book shewing \$243 to her credit. She was subsequently brought before the police magistrate, and was by him committed to Beauport Asylum as a lunatic. The book still remains in the hands of Chief McLaughlin.

A man was drowned while diving in the usual diving dress, for round shot thrown from a steamer which had grounded near St. Helen's Island. The diver remaining an unusual time below, his comrades became alarmed, and drew him up by the check line, when they found that he was lifeless.

One hundred and thirty-six seamen were arrested for deserting their vessels. A large number were captured at Lachine, and other places outside the city limits, whither they had been pursued by the police, and were either punished or restored to their vessels under the orders of the magistrate.

In June of last year, Chief Constable McLaughlin and six of the force, pursuant to urgent orders from the Department, were despatched to Quebec to assist the River Police at that place in suppressing crimping, which had assumed large and dangerous proportions. They remained until their services were no longer required. It is to be regretted that attempts at crimping, but on a smaller scale, were organized here. The Department, with a prudent foresight, authorized the employment of supernumeraries to take the place of the absent men. Special arrangements were made for its suppression, and the energy with which the measures adopted were carried out, and the prompt action of the Crown prosecutor, Mr. Schiller, and the Police Magistrate, Mr. Brehault, nipped its growth in the bud. Those caught were summarily tried and duly sentenced, and the example taught by the speedy administration of justice seemed happily to have the desired effect. Large numbers of seamen were arrested upon various charges, and are not included in the one hundred and thirteen already referred to. Most of the arrests were for wilful disobedience of the orders of their officers, disorderly conduct on board of ship, and absenting themselves without leave. They were also summarily dealt with.

Thirty-four persons were arrested by the force for thefts committed on the wharves. The Montreal Water Police, in addition to their ordinary duties, have in due course attended coroner's inquests, of which there were a large number; been present on the arrival and departure of steamers and passenger boats, maintaining order, &c., and attended to the maintenance of the Fishery Laws as far as possible during the season.

It gives me much pleasure to testify to the uniform good conduct and efficiency of the officers and men of the force during their period of service. Many have been employed for years under the Government and the Department, and it is but justice to note this fact. Moreover, I may be permitted to observe that though disbanded in winter to seek any employment that may offer, the men cling tenaciously to the service.

It may seem a wonder that such is the case, but when the just, yet generous spirit which actuates and pervades the Executive of the Marine and Fisheries, the helping hand extended to the widows of those who have lost their lives in the performance of their duty, the considerable increase of pay at a time of extraordinary high price in food and fuel, together with the consideration with which application for any necessary requirements are entertained by the Minister and his Deputy, it ceases to be a matter of surprise, and becomes one of congratulation.

I have once again to beg your acceptance of my thanks for the courtesy extended by the Department in all its transactions. Indeed, after so many years, the phrase has become stereotyped, and would seem to close each annual report as a graceful tribute to the well known administration of the important branch of the public service included in the Marine and Fishery Department.

I have, &c.,

CHAS. J. COURSOL,

Commissioner Dominion Police.

WM. SMITH, Esq.,

Deputy of Minister of
Marine and Fisheries,
Ottawa.

RETURN showing the number of Prisoners arrested by the Montreal Water Police, for the Fiscal Year ended
30th June, 1872.

Month.	Cutting and wounding.	Assault and battery.	Absenting and resisting the Police.	Obtaining money under false pretences.	Setting fire to a house.	Embezzlement.	Impeding on the wharves.	Drunk.	Drunk and disorderly on board ship.	Sailors deserting their ships.	Sailors refusing duty on board ship.	Larceny on the wharves.	Threatening the lives of their captains.	Fighting on the wharves.	Vagrancy.	Attempts to commit suicide.	Sailors absent without leave.	Crimping seamen.	Cruelty to animals.	Carters impeding on the wharves.	Carters furious driving.	Indecent assault.	Stealing ships' cargo.	Bathing opposite the city.	Carrying deadly weapons.	Protection.	Total.	REMARKS.
July, 1871.....	5					1	2	18	10	2	10		10		3	1								2		23	87	
August, ".....	6	1	1	2	1			33	7	3	12	2	17	4	10					1	1				1	15	117	
September ".....	1	4	1			1		17	8	5	3	1	2		1	3						1				40	89	
October ".....	12	3	1	1	1			30	9	6	17	14	11		4	1	6			1	1		2			20	141	
November, ".....	4	7						23	2	3	9		4	1	5		7	1					2		1	28	104	
December, ".....								2	1				1													18	22	
January, 1872.....								1	1				1													12	15	
February, ".....								1																		11	12	
March, ".....																										47	47	
April, ".....								4	3						1											29	37	
May, ".....	2	2						22	7	1	35	2	4		1	3	1	4		1		2			2	12	103	
June, ".....	9	5	1					40	8	7	27	5	4	1	6		3	2								5	123	
	545	19	3	3	4	4	191	56	27	113	24	54	6	16	19	3	23	3	2	2	3	1	4	2	5	260	897	

JOHN McLAUGHLIN,
Chief Constable.

MONTREAL, 8th July, 1872.

APPENDIX No. 14.

REPORT OF CHIEF OF QUEBEC RIVER POLICE, FOR THE FISCAL YEAR ENDED 30TH JUNE, 1872.

QUEBEC, 17th December, 1872.

SIR,—I have the honor to submit my Annual Report as Chief of the Quebec River Police for the fiscal year ended 30th June last. Appended to this Report is a statement giving the number of persons arrested by the River Police, the various offences committed by those persons, and their nationality.

On the 2nd of May, the River Police were sworn in for duty ; the force being composed of the following officers, viz :—

One Chief, who is also Shipping-master for the Port, and whose pay is \$1,200 per annum.

One steersman for steam yacht, at \$1.80 per diem.

Two coxswains, at \$1.40 each per diem.

Nineteen constables, at \$1.10 each per diem.

One engineer, at \$50 per mensem.

On the 4th of June, the force was increased by order of the Hon. the Minister of Marine and Fisheries by the addition of one coxswain and eight men, making a total of thirty-two men including the engineer.

The pay of the force was also increased from the 1st of June, and rates as follows :—

Steersman	\$2.10 a day.
Coxswains	1.80 „
Man in Shipping Office	2.00 „
Constables	1.50 „

The steam yacht during the day performs nearly two-thirds of the duty. The night duties are attended to by three six-oared boats, with crews of one coxswain and six men to each boat ; the crew of the steam yacht taking their turn of duty in one of the boats, thus keeping up a regular patrol on the river during the night.

The police execute all warrants on both sides of the river from Indian Cove to Cap Rouge.

They also go in search of timber, boats, &c., lost or stolen from ships, booms and rafts, and when found the steam yacht generally takes these back, or to the police dock.

The Harbour Master or his assistant when required, are furnished with a boat, or the steam yacht. A number of the police are required daily to escort prisoners to the Police Office, thence to the gaol, and again from gaol to their ships when ready for sea. The gaol is about two miles from the River Police station.

The increasing lawlessness at this port among the class known as “crimps,” and their “runners” who live by stealing seamen from their ships, by soliciting them to desert, and secreting them when on shore, imperatively calls for greater severity in the law when dealing with such persons. It needed but the murder of the seaman Puufs in the early part of the season, to shew that these desperadoes are prepared to commit any crime if interfered with while in pursuit of their vile traffic. A constant attention to the working of the existing laws enables me to point out some of their defects, and to suggest a remedy.

I would most respectfully suggest that the present "Act for more effectually preventing the desertion of Seamen," Consolidated Statutes of Canada, 22 Vic. cap. 43, as amended by 34 Vic. cap. 32, be repealed, and a new Act be passed, embodying clauses to the following effect:—

1st. To furnish by imprisonment absolutely, (without the option of a fine) any persons who by words or with money, or by any other means whatever, directly or indirectly, persuades or procures, or goes about, or endeavors to persuade, prevail upon, or procure any seaman to desert or absent himself without leave from his ship, or receives or assists any deserter from the merchant service, or seaman absent from his ship without leave, knowing him to be such deserter or so absent.

In fact, a similar clause to that to be found in the Act 32 and 33 Vic. cap. 25, respecting certain offences relative to the army and navy.

2nd. To punish by imprisonment absolutely any person found loitering near any vessel in a boat or other water craft, and not giving a satisfactory account of his business there, or found receiving clothes, &c., &c., as in 22 Vic. cap. 43, sec. 3, Consolidated Statutes of Canada, amended by 34 Vic. cap. 32.

3rd. The 4th sec. of cap. 43, as to detaining boats, &c., should be amended so as to authorize any Justice of the Peace to impound the boat, and order the same to be sold to defray the costs, there being no pecuniary fines under the statute I hope to see passed.

4th. Sec. 5 and sub-sec. 2 of cap. 43 might be re-enacted, the punishment to be imprisonment absolutely.

5th. There should be a clause making it an aggravated offence for any person who unlawfully goes on board of, or loiters near a vessel, to carry about his person or exhibit in a threatening manner, any firearms or other offensive weapon. Crimps and their runners are in the habit of terrifying shipmasters, mates and watchmen, by pulling out their revolvers when kidnapping the seamen.

6th. There should be a clause such as in Consolidated Statutes of Lower Canada, cap. 55, sec. 15, punishing the detention, taking possession, &c., of seamen's effects, but the penalty should be not less than one month's imprisonment in default of immediate restoration of the effects, and payment of the penalty and costs.

7th. All prosecutions to be brought by, and in the name of the Chief of the River Police at Quebec, before any one Justice of the Peace.

8th. There should be a clause similar to that in the Quebec License Act, that when any adjournment of the trial is necessary, and is ordered, the evidence of such witnesses as are in attendance to be taken at once, or as provided for in the Act concerning offences relative to the army or navy, that the examination of witnesses about to leave the Province be taken before a Justice of the Peace immediately. I have known many cases fail for want of some such enactment.

9th. If it be considered impossible to deny to offenders of this description the right of being bailed pending their trial, the amount of bail should be fixed in the Act, so as to justify the magistrate in requiring it, and it should be not only proportionate to the punishment, but the securities should be in all cases proprietors of real estate.

10th. There should be no *appeal* or *certiorari* from any conviction under the Act, notwithstanding anything to the contrary in any statute, and no notice of appeal or certiorari should effect the execution of any conviction. Prosecutions are rendered an idle fear now by the right of appeal existing under the General Statute.

I have &c.,

R. H. RUSSELL,

Chief of River Police.

WILLIAM SMITH, Esq.,

Deputy of Minister of Marine, &c.,

Ottawa.

Statement giving the number of persons arrested by Quebec River Police, the various offences committed by those persons, and their nationality.

Desertion	78
Absence without leave	160
Refusal to perform duty	45
Refusal to proceed to sea	13
Neglecting to join vessel	46
Warrants for assault	20
Assaults by captain on crew	3
Assaults by chief mates on crew	2
Captains assaulted by crew	5
Chief mates assaulted by crew	2
Drunk and fighting on board	20
Drunk on wharves and streets	24
Thefts on board	10
Embezzlement of cargo	2
Demaging property on board	2
Insane	1
Exposing person	3
Threatening to shoot	7
Perjury	1
Harbouring deserter	1
Manslaughter	2
Stabbing and cutting with knife	11
Cutting tow-line	3
Crimps or their runners loitering alongside ships	13
Crimps or runners going on board ships without permission	5
Protection for the night	26
Detaining seamen's effects	2
Warrants of commitment	2
Total	509

Nationality.

England	107
Ireland	161
Scotland	76
Wales	12
Norway	31
Sweden	20
Quebec and Ontario	20
Prussia	14
Denmark	4
United States	12
Nova Scotia	10
New Brunswick	7
Holland	6
Portugal	1

Belgium	1
Austria	3
Finland	9
West Indies	8
Newfoundland	3
Jersey	2
Prince Edward's Island	1
Isle of Man	1
Total	509

APPENDIX No. 15.

STATEMENT of Expenditure on account of Montreal and Quebec Water Police,
for Fiscal Year ended 30th June, 1872.

MONTREAL WATER POLICE.		\$ cts.	\$ cts.
John McLaughlin	Salary as Chief, from 1st July, 1871, to 31st May, 1872	806 40	
C. J. Coursol	Balance of Pay List, for June, 1871	586 73	
do	Pay List of men, from 1st July, 1871, to 31st May, 1872	5,165 80	
do	Rewards to members of the force, of 20 cents per diem, for good conduct	850 40	
H. Morgan & Co	Flag, clothing, &c.	1,267 75	
J. Keely	Wood	39 00	
L. Bronsson	Subscription, <i>Quebec Courier</i>	4 00	
I. B. Taylor	do two years, <i>Citizen</i>	16 00	
L. Perrault & Co	do one year and a half, <i>Le Pays</i>	9 75	
G. E. Clark	do <i>Witness</i>	6 00	
<i>Montreal Herald</i>	do	8 00	
<i>Toronto Leader</i>	Advertising	2 50	
<i>Globe Printing Co.</i>	do	5 00	
<i>Gazette</i>	do	6 00	
P. Martin	Cab hire	10 60	
J. Starke & Co	Printing	36 25	
J. McLaughlin	Petty expenses	107 99	
Mary Smallman	Meals	21 39	
J. Richardson	Stocks	15 00	
McIver & Co	Caps and covers	187 50	
E. Thompson	Boots	75 00	
D. Bremet	do	76 00	
Montreal Telegraph Co. ..	Telegrams	22 00	
Dominion do	do	3 10	
Post Office	Postage	50 71	
J. Lovel	Directory	4 00	
G. Armstrong	Stretcher	11 00	
Water Works Co	Water tax	28 30	
G. Bary	Rent of station	360 00	
Gas Co.	Gas bill	32 40	
R. Hendry	Crowns for sergeants' collars ..	7 50	
Duvernay Frères	Advertising	6 00	
J. J. Foote	do	12 00	
<i>Courrier des Etats-Unis</i> ..	do	4 75	
G. Meldrum	Coal	10 00	
L. Turville	Wood	34 00	
R. Warrington & Co	Stove pipe	11 56	
W. S. Beard & Co	Coal	44 87	
Receiver General	Deposit Superannuation Tax deducted from Chief McLaughlin's salary, for fiscal year ended 30th June, 1872	36 50	
do	Deposit Superannuation Tax deducted from salary for six months, to 31st December, 1871 ..	18 25	
			10,000 00
QUEBEC WATER POLICE.			
R. H. Russell	Twelve months' salary, to 30th June, 1872, as Chief ..	1,200 00	
Albert Parker	do do do Clerk ..	800 00	
J. U. Gregory	Pay list of men, for year ended 30th June, 1872	5,213 70	
do	Rewards to men for good conduct, for the year ended 30th June, 1872	463 80	
Hamel Frères	Clothing, rubber coats, &c.	892 55	
L. Gagné	Repairs	65 57	
J. U. Tardevil	do	64 35	
B. Trudell	do	48 61	
Carried forward			10,000 00

STATEMENT of Expenditure on account of Montreal and Quebec Water Police, for
Fiscal Year ended 30th June, 1872.—*Continued.*

QUEBEC WATER POLICE.— <i>Continued.</i>		\$ cts.	\$ cts.
<i>Brought forward</i>			
H. Jalbert & Co.....	Repairs.....	98 35	
J. Cunningham.....	Uniforms.....	62 50	
L. Arel.....	Tallow.....	68 85	
J. Giblin.....	Coal.....	209 00	
C. Poston.....	do.....	30 00	
D. Davidson.....	Boiler tubes.....	61 35	
C. Samson.....	do.....	6 00	
Gibb, Laird & Co.....	Provisions.....	48 76	
J. Chalmers.....	do.....	20 00	
H. Bruno.....	Life preservers.....	13 00	
Fullerton & Alexander.....	Repairing boats.....	44 50	
J. J. Shaw.....	Hardware.....	33 90	
do.....	Rubber valve.....	16 13	
Audet & Robitaille.....	Rope, &c.....	56 45	
J. J. Budden.....	Cord wood.....	55 00	
Hamel Frères.....	Matting, &c.....	33 73	
G. T. Philips.....	Steam gauges, stop cocks, &c.....	165 16	
L. Gagné.....	Wages of workmen making repairs.....	76 16	
S. Peters.....	Water closet.....	26 50	
Renfrew & Marcon.....	Hats and caps for men.....	71 75	
R. H. Russell.....	Petty expenses.....	30 65	
W. McDonald.....	Painting.....	16 25	
J. Battle.....	do offices.....	15 00	
do.....	Making cotton shirts.....	12 50	
H. Talbert.....	Repairs.....	6 50	
V. C. Terrieau.....	Ballast.....	14 79	
Middleton & Dawson.....	Stationery.....	30 95	
E. E. Buteau.....	Labor, cartage and petty expenses.....	65 78	
M. Murley.....	Police batons.....	41 85	
O. Bedard.....	Tinware.....	20 95	
Watson & Jarvis.....	Repairing sails.....	27 89	
O. Peters.....	Lumber.....	6 24	
Chenier & Baudet.....	Hardware.....	7 16	
G. T. Cary.....	Subscription to <i>Daily Mercury</i>	12 00	
do.....	Statutes of Canada.....	2 50	
Archer & Co.....	Lumber.....	4 50	
Renfrew & Marcon.....	Waterproof covers for caps.....	13 00	
P. Couette.....	Boats.....	30 00	
J. U. Gregory.....	Wages of men outfitting, &c., &c.....	24 42	
F. O. Vallerand.....	Lanterns for steamer.....	13 50	
J. J. Foote.....	Subscription to <i>Morning Chronicle</i>	6 00	
Total.....			10,348 00
			20,248 00

WM. SMITH,
Deputy of Minister of Marine and Fisheries

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, 2nd January, 1873.

**STATEMENT of Receipts of Harbor Police Dues collected at Montreal, for the
Fiscal Year ended 30th June, 1872.**

	\$ cts.	\$ cts.
Receipts for quarter ended 30th September, 1871.....	2,254 44	
do do 31st December, 1871.....	1,647 39	
do do 30th June, 1872.....	1,357 10	
		5,258 93

**STATEMENT of Receipts of Harbor Police Dues collected at Quebec, for the Fiscal
Year ended 30th June, 1872.**

	\$ cts.	\$ cts.
Receipts for quarter ended 30th September, 1871.....	8,249 52	
do do 31st December, 1871.....	3,784 08	
do do 30th June, 1872.....	9,923 27	
		21,956 87

RECAPITULATION.

	\$ cts.	\$ cts.
Total receipts of Harbor Police Dues, Montreal	5,258 93	
do do Quebec	21,956 87	
		27,215 80

WM. SMITH,
Deputy of Minister of Marine and Fisheries

DEPARTMENT OF MARINE AND FISHERIES,
Ottawa, 2nd January, 1873.

APPENDIX No. 16.

SECOND REPORT OF THE METEOROLOGICAL OFFICE OF THE DOMINION OF CANADA: BY G. KINGSTON, M.A., SUPERINTENDENT.

Presented—January, 1873.

The Honorable P. MITCHELL,
Minister of Marine and Fisheries.

SIR,—Before proceeding to give an account of the progress of the meteorological system of the Dominion, during the past year, I shall offer a few remarks descriptive of the objects proposed by such a system, and of the organization needed to carry them into effect.

OBJECTS OF A METEOROLOGICAL SYSTEM.

- 1.—The collection of meteorological statistics, and their arrangement in form suitable for the discussion of various physical questions.
- 2.—The combination of the materials collected from numerous places, in a series of years, and the deduction therefrom of the climatic character of each district and locality, and the laws of geographical distribution.
- 3.—The prognostication of weather.

AGENCIES NEEDED FOR CARRYING THESE OBJECTS INTO EFFECT.

- I.—A central meteorological office, with a normal Observatory attached to it.
- II.—A large number of ordinary meteorological stations, from which reports are sent by mail to the central office for compilation.
- III.—A few well-equipped stations, to which the name of chief stations has been given, where the observations may be sufficiently frequent, continuous, and prolonged, to furnish data for the compilation of the constants which are needed for reducing the observations made at ordinary stations within their respective districts.
- II. and III. are required for the collection and discussion of meteorological statistics. For the purpose of making and publishing weather prognostications, the two following agencies are needed.
- IV.—Several observing and reporting telegraph stations, from which reports are made by telegraph to the central office.
- V.—A much larger number of receiving and publishing telegraph stations, to which the facts, or opinions founded on the facts, collected by telegraph at the central office, are sent by telegraph, and there communicated to the neighbourhood by written notices or by signals.

ON THE DUTIES AND MODE OF MAINTAINING THE AGENCIES NAMED ABOVE.

CENTRAL METEOROLOGICAL OFFICE.

The functions of this office are as follows:—

- 1.—To select all stations and observers that receive pecuniary aid from the Dominion Government.
- 2.—To exercise, by visitation and correspondence, a general supervision over all subsidized stations, as well as over all private observers who may voluntarily place themselves in correspondence with the centre.
- 3.—To regulate the methods and times of observation; to keep the stations supplied with forms for registration; and to aid all observers in the selection of their instruments.

4.—To receive and compile meteorological returns, and to publish them—or deductions from them—from time to time.

5.—To receive telegraphic weather reports from observing telegraph stations, and to despatch by telegraph to distant points either the aggregate of facts so collected or opinions founded thereon.

Maintenance of Central Office.

The central office should be supported entirely by Dominion funds.

ORDINARY METEOROLOGICAL STATIONS.

This term is applied to stations where observers receive no salary or subsidy from the Dominion Government. The meteorological office stands to them in much the same relation as the Secretary of a Meteorological Society does to its several members, but with this difference: that whereas members of a Meteorological Society pay an entrance fee, and an annual subscription wherewith all the expenses of the Society, including the salary of the Secretary, are defrayed, private observers in Canada are relieved from such expenses. Great importance is to be attached to the services of private observers, which often exceed in amount those of salaried officials; indeed, without them it would be impracticable to compass the statistical branch of meteorological science. It is from their ranks, if practicable, that observers should be drawn to occupy positions to which emolument is attached; but as it would be as impossible for the State to provide salaries to private meteorologists as to private devotees in other branches of natural science, it is to be hoped that for maintaining ordinary meteorological stations voluntary unpaid labour will be found sufficient in Canada, as it is in other countries.*

Ordinary meteorological stations may be arranged in the following sub-classes, according to the extent of their operations:—

(a) Stations at which observations of all the ordinary elements are made at least three times each day.

(b) Stations where records are kept of the temperature, the direction and velocity of the wind, the amount of rain and snow, and the general state of the weather, with notices of miscellaneous phenomena, the observations being made two or three times each day.

(c) Stations where records are kept of the amount of rain and snow, with notices of miscellaneous phenomena.

(d) Stations where notices are made of phenomena, for observing which no instruments are needed, and where records are kept of events connected with the progress of the seasons.

CHIEF STATIONS.

The primary function of what I have termed Chief Stations is to record observations whereby may be computed the corrections for diurnal and nonperiodic variation. These corrections are required, in order that by their aid the comparatively scanty observations made during short periods at ordinary stations may be rendered comparable with those taken frequently and for a long series of years.

To carry out this primary object, the following arrangements are necessary:—

(1.) The meteorological elements should be recorded by a continuous automatic process, or by observations, day and night, at equal intervals, not exceeding three hours.

(2.) The observations should be continued for a long series of years, although it is not necessary that they should be taken with the same frequency through all time. It would be sufficient to persevere in the short intervals for five or six years, and afterwards

* By unpaid labour is to be understood labour not paid for by the central Government. Ordinary meteorological stations might very fittingly receive aid from Provincial Governments as in the Province of Ontario, or from Boards of Trade, Agricultural societies, and from private liberality.

to pursue, for a while, a less onerous system, the short intervals being again taken up a few years later.

(3.) There should be three or more Chief Stations in each Province; and in each of the outlying Provinces—Nova Scotia, New Brunswick, Manitoba, and British Columbia—one of the superintendents should do the duty of agent for the central office, by giving assistance in forwarding apparatus, register-forms, &c.

The duties of the superintendent of a Chief Station will occupy only a small portion of his time; but in consequence of the distribution of these duties through the day and night, and as a provision in case of his absence from any cause, he ought to have the partial services of two or at least one assistant.

In order to insure the regularity essential to these observations, stipends should be paid to the superintendents and assistants at Chief Stations; but as these officers derive their incomes principally from other sources, the stipend need not be great.

Maintenance of Chief Stations.

When it is desired to plant a Chief Station in a place where there is no resident who could be easily qualified to undertake the superintendence, and where, consequently, it would be requisite to send and maintain an observer, the station would be supported, wholly by Dominion funds; but if, in the locality fixed on, there be a good private observer, or an educated person who is willing to become an observer, and who has other means of supporting himself,—or an institution supported by Dominion, Provincial, or Academical funds, and of which the authorities manifest a readiness to undertake the proposed duty,—the service might be secured by the payment of a moderate subsidy. The subsidy granted to any station would depend partly on the amount of work performed there, and partly on the facilities which the superintendent might possess for procuring assistance; and in each case would be a matter of arrangement, without reference to what might be expedient at another station where the circumstances are different.*

If the superintendence be undertaken by an institution, the subsidy ought not to be regarded in the light of a *grant* to the institution, as *such*, to be expended as the authorities may think fit, and as constituting a precedent in favour of similar institutions, but as a *trust* to be expended wholly in carrying on the duties above described.

OBSERVING AND REPORTING TELEGRAPH STATIONS.

The duty of the superintendent of an observing and reporting telegraph station is to telegraph to the central office certain meteorological conditions at regular stated hours, and at extra hours when ordered to do so.

As any omissions or delays in sending weather reports would seriously disarrange the whole system, it is requisite to ensure punctuality by giving a stipend to the superintendent; and to provide for the duty, in the event of the unavoidable absence of the superintendent, small allowances may be made to two persons, on condition of their acquiring and keeping up an acquaintance with the observations; further remuneration, when their services are actually needed, being paid to them.

Maintenance.

The whole expense of maintaining the reporting stations, as well as of telegraphing their reports to the central office, should be borne by the Dominion.

* An example of the manner in which a zealous superintendent may turn special facilities to account is shown in the case of Mr. Montgomery, of the Canadian Literary Institute at Woodstock, Ontario. This gentleman has carried on, for more than two years with hardly a break, a series of temperature observations day and night at intervals of three hours, by the aid of watchmen, who were selected from the theological students of the Institute, the only expense to the public, up to the end of 1872, having been a trifling sum paid to a substitute during a short absence of Mr. Montgomery.

RECEIVING AND PUBLISHING TELEGRAPH STATIONS.

Although it will frequently occur that meteorological observations are made at places which receive telegraphic notices from the central office, the receiving stations, as such, are not meteorological stations in the ordinary sense, and, to fulfil their special functions, need not be provided either with instruments or observers, as forecasts which relate to them are founded mostly on observations at distant points.

These stations will differ greatly in the cost and extent of their operations, and will be very numerous, every town and village accessible by wire, on the coasts, and eventually through the country, being included in this class.

It will be convenient to arrange them in the following sub-classes :—

(a) Stations to which warning telegrams are despatched occasionally from the central office, and where the whole duty consists in hoisting and hauling down a cautionary drum, and in posting written notices.

(b) Stations where, besides occasional warnings, daily probabilities from the central office are received and published.

(c) Stations at which are published, from one to three times daily, bulletins, more or less extensive, giving detailed statements of the condition of reporting telegraph stations in Canada and the United States.

Maintenance of Stations (a,) (b,) and (c.)

This includes expenses at the stations and those of telegraphing.

The expenses of a station would be shared between the Dominion and the locality in proportions depending on the degree to which commerce generally, or interests merely local, would be most affected.

In nearly every case, the drum and mast and hoisting apparatus would be at the cost of the local authorities, who should also provide some one to receive the warnings and to see to hoisting the drum and posting the notices. These remarks are also applicable to places which receive daily probabilities.

It is desirable that copies of warnings or of daily probabilities, telegraphed to a place, should be furnished without delay to the regular meteorological observer, if one should be stationed there; but as the observer may reside at a distance from the points most suitable for the display of notices, and will not as a rule be always at hand when special telegrams arrive, it is probable that promptitude in the publication of warnings will be best secured by entrusting this duty to some one who, either in person or deputy, would be always accessible, and who would undertake it either gratuitously or for a slight consideration. When it is the desire of the inhabitants of a place to publish *bulletins* from one to three times daily, as the person entrusted with their preparation would require a little technical knowledge, and would be employed at least one hour for each bulletin, his services would demand some remuneration, the cost of which, as a rule, would be borne by the locality.

With respect to the expenses of telegraphing from the central office, where the telegram is a cautionary message, the cost would fall chiefly on the Dominion, the locality paying a small share only; but when probabilities or the materials for bulletins are telegraphed to a place from the central office, the expense of telegraphing would fall almost entirely on the local authorities at the place of publication.

I shall now give a brief statement of the progress made in carrying into effect the scheme of which the above is an outline.

ON THE RECENT PROGRESS AND PRESENT CONDITION OF METEOROLOGY IN CANADA.

Prior to the autumn of 1869, there were but few meteorological observers in the Dominion, and there was an absence of that unity of action by which the scanty materials that did exist could be so combined as to yield satisfactory results. Being dissatisfied with a state of affairs so discreditable to the meteorology of Canada, and resolving that it

should continue no longer, I addressed myself by letter and in person to those actually engaged in meteorological observations, and also to others in various parts of the country, requesting their cooperation, and offering to make arrangements whereby all observations might be carried on in accordance with instructions issued by myself, and might be reported to me regularly from month to month. The result has been a steady increase in the number of observers, and in the exactness and regularity of the observations.

In the work of extension, I have received much valuable aid from the managers of most of the railways, from the Manager of the Gulf Port Steamship Company, and from those gentlemen in the various Provinces who had actually engaged in meteorological observations. To Mr. F. Allison, now Chief Meteorological Agent for Nova Scotia, I am indebted for the correspondence in Nova Scotia and Newfoundland; and it was through the aid of the Rev. Père Bonneau, of Quebec, that rain-gauges have been set in operation in several convents in the Diocese of Quebec.

From October, 1869, to the spring of 1871, the meteorological work of Canada was carried on by an organization that was strictly voluntary. No emoluments whatever were attached to the services of the observers, and the instruments were either private property or were provided on loan from the Toronto Observatory, from which establishment forms for registration were also furnished. The work of organizing new stations and of compiling returns were gratuitously performed by the Director of the Toronto Observatory and his assistants.

In the spring of 1871, the Legislature of the Dominion recognized the value of these labours by a grant of \$5,000 for the promotion of meteorological research, and with a special view of preparing the way for establishing a system of storm signals.

As the effectual utilization of observations at ordinary stations could only be secured by aid of the corrections that are derived from the observations made at chief stations, the greater portion of the grant was devoted to the equipment of certain chief stations, and to supplementing the hitherto gratuitous labours of their superintendents by pecuniary allowances, which might enable them to carry out, wholly or in part, the duties of chief stations, which (as elsewhere stated) consist primarily in recording observations of the several elements, night and day, at equal intervals, not exceeding three hours.

The remainder of the grant was expended in the purchase of instruments for service at ordinary stations, in the preparation of register forms, in the expenses of compilation and reduction at Toronto, and in other contingencies.

Among the new agencies called into existence by this grant were stations formed at several lighthouses, for carrying on observations of a simple character. Many of the light-houses are beyond the reach of the Post-office and only occasionally visited, and form, therefore, an exceptional class, their reports being regarded as analagous to the log-books of ships, which, though not available from month to month, may afterwards be of great service in the study of atmospheric movements.

During the year 1872, a few ordinary stations have been added to the list, and at some the observations have ceased; but in consequence of the demand on the attention of myself and staff in extending the telegraph system, the increase of the grant from \$5,000 to \$10,000 having been made for the express purpose, no special effort has been made to multiply ordinary stations. The number of good stations, however, has increased, and the character of the observations has also much improved.

ON THE PROGRESS OF WEATHER TELEGRAPHY.

I have always entertained the opinion that a system of weather prognostications would have been placed eventually on a firmer footing, if its establishment could have been postponed till greater development had been given to the chief and ordinary statistical stations. By this means, observers would acquire skill and experience at little or no cost to the State, while at the same time they would accumulate facts needful for future purposes of prognostication, and would form a body from which those whose skill and fidelity had been tested might be chosen to serve as telegraph observers, whenever it might be decided to employ the telegraph in connection with weather forecasts.

Had it not been for the action of the United States during the last three years, the course just indicated by me would have been the wisest. The fact, however, that the United States have inaugurated a very liberal and extensive scheme, and that the observations taken at upwards of sixty stations distributed throughout that country can be placed at the disposal of Canada, on the easy condition of paying the cost of the telegrams from Buffalo to Toronto, is a very strong reason why Canada should enter on a work now, which, in other circumstances, would have been better postponed.

For the benefit of Canadian commerce, then, it behoves us to form within our own territory a system of observing telegraph stations, whose reports, telegraphed to Toronto (the Canadian centre), may supplement those which can be obtained from the United States on such easy terms, and thus to collect the data whereby opinions regarding approaching weather may be telegraphed to the various Canadian ports. In the general cause of science and humanity also, it is fitting that Canada should furnish that contingent to the weather officer of Washington, without which their system must remain incomplete.

In accordance with these views, late in 1871 I proposed to the Chief Signal officer at Washington to supply the weather officer with regular tri-daily reports from certain stations where experienced observers were at work. Reports from the stations named by me, which were mostly in the Lower Provinces, were declined, on the ground of their not being so suitable as western stations; but it was earnestly pressed on me to establish, as soon as possible, certain stations on the Lakes. The points finally agreed upon were Saugeen, on Lake Huron; Port Stanley and Port Dover, on Lake Erie, and Kingston, on Lake Ontario. After some time being occupied in conveying apparatus to the stations, selecting observers, and instructing them in their duties, reports were commenced early in January, 1872. The observations were taken three times daily, precisely at the same absolute time, namely: 7.25 a.m., 4.25 p.m., and 11.25 p.m. (Toronto time);* and the reports, telegraphed to Toronto in cipher, were forwarded to Washington, together with reports of observations similarly taken at Toronto.

In return for the reports furnished by me from Toronto, I received, once each day, reports from fifteen stations in the United States, which, together with the telegrams from Canadian stations, were daily published in the Toronto papers.

These operations served to keep the telegraphic machinery in gear, but were on too limited a scale to be of any direct and immediate benefit to Canada; but that they were of value to Washington, and thus indirectly so to Canada, inasmuch as both countries are interested in the perfection of the service, may be gathered from extracts taken from the recent report by the Chief Signal Officer, part of which, however, relates to events subsequent to those to which I have referred above:—

“Soon after the date of the last annual report, arrangements were made with “Professor G. T. Kingston, of Toronto, Chief of the Dominion Meteorological Bureau, in “compliance with an official request from that Bureau, and in view of a considerable “appropriation contemplated by the Dominion of Canada, for the purpose of a system of “observation and report similar to that existing in the United States, for an exchange “of reports with this office as rapidly as the system may extend in the Dominion.

“In accordance with these arrangements, telegraphic reports are now received from “seven Canadian stations.†

“Warnings, announcing probable meteoric changes, and prepared with special “reference to the Canadian ports, are sent to Toronto whenever any serious disturbance “is indicated. A notable instance of this co-operation was had in the progress of the “great storm of September 28th, 29th, and 30th, of this year (1872). Warnings were “given in advance at the Lake ports of the United States, and similar warnings were at “the same time forwarded to Canada. The advantages resulting to both States are highly “estimated. Aside from the sentiment of international comity and good will incident to

* Since August 1872 the hour for the night observations has been 10.50 p.m.

† Since the above was written, two new telegraph stations have been added to the list, namely, Halifax and Fort Garry.

"its existence, it is of practical value to the Dominion. Located as it is, the exchanged reports received from the United States are essential to safety. To the United States the reports received from the Dominion are like those of vidette stations against the storms moving upon the Lake region from the North, and thence traversing the Northern, Middle, and Eastern States, and the adjacent sea coast. The appropriation made by each nationality, without in any way lessening its value to the people who make it, is in effect supplemented by the sums similarly devoted by the other—a mutual benefit accruing to both. It is to be hoped the system may be extended in the Canadas, and the co-operation be yet closer; this connection of the services becoming the first link in the great chain of interchanged international telegraphic reports, destined with a higher civilization to bind together the signal-services of the world."

It was with great reluctance that, at the end of six weeks, I was compelled, from want of funds, to suspend the Canadian telegrams till, by an addition of \$5,000 to the original grant, I was enabled to resume operations on 1st July, 1872. Since that date, regular telegrams have been sent to me three times daily, from six Canadian stations, namely: Saugeen, Port Stanley, Port Dover, Kingston, Montreal, and Quebec, and after examination have been repeated to Washington, together with similar reports from Toronto. Later in the year, Halifax and Fort Garry commenced operations as telegraph reporting stations; but owing to the fact that there is no direct telegraphic communication with Fort Garry, it was arranged that the telegrams should be sent to Toronto through Washington. I have also partially organized stations at Chatham, New Brunswick, and Cape Rozier, Gaspé, where the observations are made and recorded at the telegraph hours; but I do not purpose to receive telegraphic reports from these places till a further appropriation has been made.

In consequence of the limited fund at my disposal (\$5,000 being all that can be spared for the whole telegraphic service), I have availed myself of the regular telegrams from the United States to only a trifling extent, the total number which I receive daily being the morning reports from five stations.

The operations of Toronto as a telegraph centre are two-fold.

1. They consist in collecting data at Toronto on which to found prognostications; and
2. In communicating to Canadian ports either the aggregate of facts, so collected, or prognostications founded on them.

As already stated, the former of these two classes has been hitherto confined to receiving three daily reports from each of eight Canadian stations, and one daily report from five stations in the United States. With regard to communicating to other places the aggregate of facts collected at Toronto, as no funds are at my disposal for this purpose, it has been in my power to do so in two cases only, where local bodies consented to bear the cost of the daily telegrams from Toronto.

At the request of the Chamber of Commerce at Halifax, I have telegraphed to that city each day a description of the weather, at 7.25 a.m. (Toronto time), at two Canadian and five United States' stations, comprising four on the Atlantic coast.

Montreal has also been supplied with similar information from eleven stations. The information has been conveyed by a method whereby the most essential facts from each station are expressed by four or sometimes five words, instead of by ten, the usual number.

Mr. Allison and Dr. Smallwood have been the agents for receiving and publishing this information, the cost of which is borne by Halifax and Montreal. With respect to the despatch of warning signals to Canadian ports, although in a few instances I have issued warnings founded on the conditions observed within the very limited area which our system of stations embraces, I have considered it hazardous to do this as a rule, and have thought it better to make an arrangement with the Signal Office at Washington, whereby notices of disturbances which are likely to reach any part of the Dominion are sent to me from Washington, and are by me communicated to the regions concerned.

The number of warnings sent by me, since the beginning of autumn, to the Lakes, the St. Lawrence, and the Lower Provinces, has been fifty-four. A great drawback to

this arrangement lies in the fact that the special messages from Washington, being despatched at irregular hours, when the lines are not under the command of the Weather Office, sometimes reach me too late to be of any service; in fact, in some instances I have been aware of the existence of a storm some time before the arrival of the message sent to warn me of its approach. This is a defect, however, for which it will be easy to find a remedy, and must not be regarded as affecting the general excellence of the system.

Having described the present condition of weather telegraphy in the Dominion, I shall make a few remarks relative to its future extension.

The operations which it is proposed to extend are of two kinds, and relate—

I. To the collection, by means of reporting stations.

II. To the *publication* of facts and opinions.

I. For collecting data at Toronto, we need the following:—

(a) Several reporting stations in Canada, in addition to those now in operation.

(b) We need also funds to pay the cost of telegraphing from Buffalo to Toronto tri-daily reports from about fifty stations in the United States. *

II. For the transmission of facts and opinions from Toronto to various places, it is requisite that the authorities at each place should arrange for the erection of signal-masts and drums, with the necessary hoisting arrangements, and should appoint some resident to receive the telegrams, and see to hoisting and hauling down the drum, and to posting written notices.

The cost of the above should be borne entirely by the locality, excepting in those cases where it is advisable, for the benefit of passing ships, to exhibit cautionary signals along the coasts, at points where the inhabitants are few and have no special interest in the display of signals.

If the local authorities desire the publication of details, they should give suitable remuneration (as stated elsewhere) to the person appointed to draw up the bulletins.

The expense of telegraphic transmission would be borne in accordance with the scheme already given; for if any portion of the sum required for collecting and discussing reports at Toronto were to be devoted to purposes of circulation, the value of the results would be injured in a corresponding degree.

I shall now make a few remarks regarding the principles which should determine the location of a telegraph reporting station.

Many persons suppose that a telegraph reporting station exists primarily for the benefit of the place where it is located; and that the commercial importance of a place is a measure of its need of a telegraph reporting station. In accordance with this misconception, dissatisfaction has been sometimes manifested that such stations have been planted at small villages on the lakes, in preference to large eastern ports. Meteorological observers should be planted, if possible, in large sea-ports, partly to interpret and supplement, by means of their own observations, the facts telegraphed to them from the centre, and also in some cases to act as telegraph observers to report to the centre; but, as a rule, the interests of eastern ports are best guarded by reports made from the west.

I shall now give a list of the stations of various kinds in correspondence with Toronto; after which will follow sundry meteorological tables, the bulk of which relate to observations made in the twelve months ending 31st August, 1872.

* Though the maximum degree of efficiency will not be attained without tri-daily reports from about fifty stations in the United States; as gradual development, in a work of such magnitude, is safer than sudden expansion, I propose in the coming season to trust chiefly to *special* telegrams from Washington, and to employ our funds in perfecting other parts of the machinery, including arrangements for the prompt delivery of warnings.

METEOROLOGICAL Stations in correspondence with the Magnetic Observatory Toronto.

CHIEF STATIONS.

Station.	Superintendent.	Station.	Superintendent.
ONTARIO.		NEW BRUNSWICK.	
Ottawa.....	Department of Marine and Fisheries. J. Montgomery, Professor of Natural Science, Canadian Literary Institute.	St. John	G. Murdoch, C. E. Professor Jack.
Woodstock		Fredericton.....	
PROVINCE OF QUEBEC.		NOVA SCOTIA.	
Montreal	Dr. Smallwood.	Halifax.....	F. Allison, M.A.
		MANITOBA.	
		Winnipeg.....	Officers of St. John's College.

REPORTING TELEGRAPH STATIONS.

Station.	Observer.	Station.	Observer.
(1) Fort Garry, Manitoba.....	James Stewart.	(2) Montreal, Quebec.....	Dr. Smallwood.
Saugeen, Ontario	J. R. Stewart.	(3) Quebec "	Capt. Ashe, R.N.
Port Stanley "	M. Payne.	(2) Halifax, Nova Scotia	F. Allison, M.A.
Port Dover "	H. Morgan		
Toronto "	Observatory.	* Cape Rosier, Quebec.....	A. Trudeau.
Kingston "	S. Woods, M. A.	* Chatham, N. B.....	G. A. Blair.

* These stations are fully supplied with instruments but as yet do not report by telegraph. (1) Also first class ordinary stations. (2) Also chief stations. (3) Also second class ordinary stations.

**METEOROLOGICAL Stations in correspondence with the Magnetic Observatory,
Toronto.—Continued.**

ORDINARY STATIONS.

Station.	Observer.	Station.	Observer.
ONTARIO.		QUEBEC.—Continued.	
<i>Class I.</i>		<i>Class II.</i>	
London, Middlesex.....	S. Lett, jun., M.D.	Quebec, Quebec.....	Capt. Ashe, R.N.
Stayner, N. R., Simcoe.....	R. J. Cole.	Richmond, Richmond.....	Rev. J. McKay.
Little Current, Algoma.....	G. B. Abrey, C.E.	Lighthouses { Bird Rocks.....	E. Chapman.
		at..... { Cape Rozier †.....	A. Trudeau.
<i>Class II.</i>		Lighthouses { Anticosti.....	E. Pope.
Dundas, G. W. R., Wentworth.....	J. Geddes.	at..... { Belle Isle.....	M. Colton.
Ingersoll, Oxford.....	W. H. Eakins.	at..... { Amour Point.....	P. Godier.
Glencoe, G. W. R., Middlesex.....	W. Hayden.		
Brampton, G. T. R., Peel.....	J. Reynolds.	<i>Class III.</i>	
Thornhill, N. R., York.....	J. Duncan.	Murray Bay, Charlevoix.....	Hon. D. Rey.
Kincardine, Bruce.....	De W. H. Martin,	Danville, Richmond.....	H. B. McKenzie.
	M.D.	at { N.-D. de Levis.....	Ladies in Residence.
North Gwillimbury, York.....	Rev. Canon Ritchie.	at { Carleton, Chaleur.....	"
Gravenhurst, Muskoka.....	T. W. Robinson.	at { Chicoutimi.....	"
Fitzroy Harbour, Carleton.....	Rev. J. Tait.	at { Charlesbourg.....	"
Brockville, Leeds.....	W. R. Bigg.	at { Riviere du Loup.....	"
Oshawa, Ontario.....	C. H. Pantan.	at { Lotbiniere.....	"
Welland, Welland.....	A. Willett.	at { Point aux Trembles.....	"
Lighthouses at { Point Clark.....	Jas. Young.	Instruments and Register Books	
at { Pelee Island.....	Jas. Cummins.	have been supplied to 18 other	
at { Clapperton Island.....	Chs. Patton.	Convents in the diocese of	
at { Pelee Spit.....	P. McIntyre.	Quebec, from which as yet no	
at { Chantry Island.....	D. McG. Lambert.	records have been received.	
at { Nottawasaga Island.....	G. Collins.		
at { Red Horse Rock.....	J. Buck.	NEW BRUNSWICK.	
at { Griffith Island.....	V. C. Hill.		
at { Amherstburg.....	A. Hackett.	<i>Class I.</i>	
<i>Class III.</i>		Bas River, King's.....	Rev. J. Fowler.
Collingwood, Simcoe.....	W. A. Parlana.	Bathurst, Gloucester.....	Hon. J. Ferguson.
Georgina, York.....	Capt. Sibbald, R.N.		
Markham, H. School, York.....	J. H. Hughes.	<i>Class II.</i>	
Credit, Peel.....	Rev. W. C. Cooper.	Petersville, Queen's.....	Rev. C. R. Mathew.
Widder, Lambton.....	A. Duffus.	Lighthouses { Grindstone.....	James Clarke.
Niagara, Lincoln.....	S. D. Mills.	at..... { Lepreau.....	G. Thomas.
Seaforth, G. T. R., Huron.....	R. B. Moodie.		
Ailsa Craig, G. T. R., Middle-	{ R. Mumford.	<i>Class III.</i>	
sex.....	{ J. Wilson.	Dorchester, Westmoreland.....	E. V. Tait.
Lucan.....	F. R. Jennings.	McAdam Junction, York.....	F. J. Hoben.
Park Hill.....	G. B. Reeve.	Caranquet, Gloucester.....	J. C. Blackhall.
Orillia, Simcoe.....	H. Fittin.	Dalhousie, Restigouche.....	J. Johnson.
Newmarket, H. School, York.....	W. R. Nason.		
Plattsville, Oxford.....	R. Treffry.	NOVA SCOTIA.	
Stoney Point, G. W. R., Essex.....	W. Dickson.		
QUEBEC.		<i>Class I.</i>	
<i>Class I.</i>		Glance Bay, Cape Breton.....	Henry Pools, C. E.
Huntington, Huntington.....	Dr. F. Shirrif.	Pictou, Pictou.....	H. A. Bayne.
		Sydney, Cape Breton.....	T. C. Hill.
		Windsor, Hants.....	Maynard Bowman.
		Yarmouth, Yarmouth.....	H. C. Creed.

* Also a reporting telegraph station. † Reserve telegraph stations.

METEOROLOGICAL Stations in Correspondence with the Magnetic Observatory, Toronto.—Continued.

ORDINARY STATIONS.—Continued.

Station.	Observer.	Station.	Observer.
NOVA SCOTIA.—Continued.		NEWFOUNDLAND.	
Class I.—Continued.		St. John's.....	J. Delaney.
Wolfville, Kings.....	Professor Higgins.	Harbor Grace.....	A. Munn.
King's College, Windsor.....	{ Rev. Canon Hens- ley, D.D. T. S. Oram.	—	
Class II.		<i>Lighthouses to which Instruments and Register Books have been sent, but no returns have as yet been received:</i>	
Digby, Digby.....	H. H. Taylor.	ONTARIO.	
Liverpool, Queen's.....	R. S. Stern.	Snake Island.....	N. Orr.
Lighthouses { Cranberry Island at..... { Sand Point..... { North Canso..... { Annapolis.....	J. Hanlon.	Pigeon Island.....	B. Gillespie.
	J. Mundell.	Isle of Coves.....	D. McBeath.
	G. McKay.	Sulphur Island.....	Wm. Sheppard.
Class III.		Christian Island.....	J. Hoar.
Guysborough, Guysborough....	S. R. Russell.	Lonely Island.....	P. Proulx.
Seaforth.....	Rev. O. McGrindon.	Red Rock.....	A. Hynes.
Beaver Bank.....	James Grove.	St. Ignace.....	
Cape North.....	T. J. Bown.	QUEBEC.	
Shelburne.....	Rev. D. Nickerson.	Father Point.....	D. Lawson.
Mahone Bay.....	E. MacNab.	NEW BRUNSWICK.	
Truro.....	W. R. Mulholland.	Machias Island.....	James Conley.
MANITOBA.		Beccumac Point.....	William Hay.
Class I.		Miscou Island.....	G. McConnel.
Winnipeg*.....	James Stewart.	NOVA SCOTIA.	
BRITISH COLUMBIA.		Sable Island.....	H. Doane.
Class I.		Coffin Island.....	L. Eaton.
Spence's Bridge, Thomson River	John Murray.	Beaver Island.....	R. Fraser.
PRINCE EDWARD'S ISLAND.		Scattarie Island.....	J. McLean.
Charlottetown.....	H. Cundall.....	Wolf Island.....	N. B. McKeen.
		Seal Island.....	A. C. Crowell.

* Also a reporting telegraph station.

LIST OF TABLES ACCOMPANYING THE REPORT FROM THE METEOROLOGICAL OFFICE TO THE
MINISTER OF MARINE AND FISHERIES.

I.—Mean temperature of the several months for stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

II.—Highest temperature in each month at the several stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

III.—Lowest temperature in each month at the several stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

IV.—Mean temperature for each quarter and for the year, from September, 1871, to August, 1872, with the highest and lowest temperatures in the year, and the dates of their occurrence.

V. to XVI.—Mean daily temperature at certain stations, corrected for diurnal variation.

XVII.—Percentage of cloud for each month and for the year at certain stations, in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

XVIII.—Rainfall for each month and for the year at the several stations, in the Dominion of Canada, from September, 1871, to August, 1872, inclusive, the stations in Ontario and Nova Scotia being divided into districts.

XIX.—Quarterly rainfall at the several stations, with the fall of snow in each month, and the total precipitation of rain and melted snow, from September, 1871, to August, 1872, inclusive.

XX.—Number of days on which rain fell for each month and for the year, at the several stations given in Table XVIII.

XXI.—Quarterly number of days of rain, with the number of days of snow, during the period September, 1871, to August, 1872, inclusive.

XXII.—Average depth of rain in inches, for the several Provinces of the Dominion of Canada, from September, 1871, to August, 1872, with the average number of days of rainfall for the same period, Ontario and Nova Scotia being divided into districts.

XXIII.—Quarterly average depth of rain in the several Provinces, with the average depth of snow for each month and for the year, and the average number of days for the same period.

XXIV.—Depth and number of days of rain (exclusive of snow), in the several Provinces of the Dominion of Canada, for each quarter and year, with the yearly depth and number of days of snow, from September, 1869, to August, 1872.

I.—APPENDIX 16.—MEAN TEMPERATURE of the several months for Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

	1871.				1872.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Mean.
Ontario.													
Pembroke.....	52.2	45.7	23.6	6.9	13.3	14.2	12.3	33.8	54.4	69.6	72.2	73.2	39.7
Little Current.....	59.6	48.2	27.2	15.6	15.0	16.4	15.8	36.3	48.7	63.8	68.1	67.6	40.2
Fitzroy Harbor.....	55.2	47.8	25.4	12.5	13.2	14.7	16.2	41.6	53.1	69.5	72.0	71.2	41.0
Ottawa.....	.....	.....	.....	.....	.....	.....	.....	39.4	55.6	67.1	70.1	69.2	.....
Cornwall.....	54.9	48.0	28.0	14.0	17.8	14.2	15.2	39.6	55.3	66.2	69.7	69.2	41.0
Brockville.....	.....	.....	27.1	16.3	16.0	15.0	16.7	40.4	52.7	64.6	70.0	69.1	.....
Gravenhurst.....	52.1	46.2	25.5	15.2	11.4	15.8	14.6	35.7	51.2	65.3	69.6	68.1	39.2
Stayner.....	51.8	47.7	27.1	15.9	.....	17.3	18.6	39.0	49.8	62.6	67.8	66.6	.....
Barrie.....	56.8	50.7	28.8	17.6	19.6	19.4	17.6	39.9	53.7	66.9	69.3	69.6	42.5
Peterborough.....	53.2	47.7	26.9	14.4	18.4	18.8	18.4	40.8	56.0	68.0	72.2	72.2	42.3
Kincardine.....	53.7	50.2	30.7	22.6	21.8	19.5	19.4	40.4	48.2	62.7	68.3	66.9	42.1
Bellefleur.....	55.4	49.7	29.2	16.4	20.2	18.0	18.9	40.8	54.9	66.2	71.6	71.7	42.8
North Gwillimbury.....	57.2	50.6	30.2	20.6	19.0	19.2	19.0	39.7	52.7	66.9	72.0	71.7	43.2
Point Clark.....	55.7	50.0	31.7	22.5	21.1	18.9	17.7	38.6	49.0	61.6	67.7	67.1	41.8
Oshawa.....	.....	.....	.....	.....	.....	.....	.....	42.3	53.0	64.7	.....	72.9	.....
Thornhill.....	51.5	47.3	32.9	21.0	23.6	.....	.....	.....	.....	.....	.....	.....	.....
Goderich.....	56.0	51.2	31.7	21.7	23.8	21.2	19.3	41.7	52.4	65.1	69.3	69.2	44.4
Brampton.....	55.1	48.6	28.9	20.7	18.8	17.4	19.9	39.9	52.8	67.0	71.2	69.8	42.0
Toronto.....	54.8	48.3	30.6	19.9	22.4	20.7	19.9	40.5	51.9	63.7	70.2	69.5	42.5
Stratford.....	53.2	47.8	28.1	17.7	19.9	18.2	17.4	40.7	53.1	64.9	69.5	68.4	41.6
Dundas.....	57.1	51.3	31.3	22.3	20.7	20.4	22.0	43.2	55.3	68.4	72.3	70.2	43.7
Hamilton.....	56.8	50.7	31.2	21.4	24.4	23.0	23.8	42.8	54.9	67.8	73.7	72.3	45.1
Woodstock.....	53.7	48.6	28.7	20.2	19.7	19.4	20.0	42.1	53.5	65.3	70.9	70.5	42.7
Ingersoll.....	.....	.....	.....	19.4	19.0	16.5	17.8	39.6	52.1	65.4	70.4	69.0	.....
Glencoe.....	54.7	52.6	30.8	20.2	19.4	19.5	21.0	42.4	55.7	68.2	74.0	.....	.....
London.....	.....	.....	.....	21.6	18.9	19.3	.....	43.5	58.1	65.0	69.2	67.6	.....
Simcoe.....	55.2	51.5	31.4	21.8	25.5	21.2	22.8	45.1	56.1	68.2	73.5	70.9	45.3
Windsor.....	59.1	53.3	32.7	21.2	23.7	21.2	24.9	47.4	57.6	69.7	74.3	73.3	46.5
Quebec.													
Montreal.....	55.4	49.8	31.6	18.2	18.9	20.4	21.0	44.2	58.8	67.2	71.7	72.5	44.2
Quebec.....	53.6	43.2	25.6	8.3	12.3	13.0	12.9	36.5	51.3	64.8	66.2	67.1	37.9
Huntingdon.....	55.7	50.4	30.6	15.7	15.8	12.7	15.8	41.2	54.6	67.0	69.2	69.2	41.5
Richmond.....	.....	44.2	25.5	14.3	13.0	15.0	16.0	39.5	52.7	65.6	64.2	67.5	.....
Cape Rozier.....	50.3	39.9	27.7	12.2	12.2	15.8	15.6	33.3	40.1	51.4	58.6	56.8	34.5
Nova Scotia.													
Digby.....	54.5	49.9	33.8	25.9	23.8	23.9	21.8	39.9	49.3	58.2	64.4	63.4	42.4
Wolfville.....	54.8	50.0	32.0	24.7	22.9	21.6	22.4	37.6	48.4	56.4	64.0	.....	.....
Halifax.....	54.7	48.4	32.7	24.6	23.6	24.0	22.9	37.9	46.2	57.1	64.8	64.1	41.8
Glace Bay.....	54.5	47.8	34.3	24.7	22.2	21.1	22.7	36.0	42.4	53.6	61.7	60.7	40.1
Pictou.....	57.1	47.6	31.3	22.2	20.7	20.6	20.6	36.5	45.6	57.1	64.1	62.5	40.5
Sydney.....	53.4	46.7	33.7	23.6	21.4	20.5	20.5	33.4	43.5	53.3	61.7	60.8	39.5
Windsor.....	54.5	47.8	32.8	23.2	22.2	22.1	21.5	37.7	48.0	.....	64.7	63.5	.....
Yarmouth.....	54.8	49.1	32.6	27.6	27.3	26.7	25.5	33.8	.....	.....	60.0	.....	.....
Liverpool.....	54.5	48.7	32.8	25.6	.....	.....	.....	.....	.....	.....	.....	.....	.....
King's College, Windsor.....	.....	.....	.....	.....	23.4	23.3	38.9	49.3	.....	.....	.....	.....	.....
New Brunswick.													
St. John.....	53.7	47.8	30.3	20.5	19.3	21.3	21.0	37.3	46.1	60.5	60.5	60.2	39.9
Bas River.....	49.1	44.6	27.3	15.0	13.3	17.0	17.6	36.1	45.9	63.3	64.8	61.8	38.2
Petersville.....	51.2	45.2	26.9	17.2	15.8	17.0	18.6	38.2	49.5	60.2	.....	.....	.....
Fredericton.....	.....	.....	.....	14.4	15.9	19.2	20.2	40.0	50.1	63.5	67.0	65.4	.....
Bathurst.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63.4	62.3	.....

I.—MEAN TEMPERATURE of the Several Months for Stations in the Dominion of Canada, &c.—Continued.

	1871.				1872.									
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Mean.	
<i>Manitoba.</i>														
Winnipeg	•	•	•	•	•	•	•	•	•	•	•	•	•	
St. John's College		39.4	12.2	-6.8	1.8	3.3	6.7	30.8	49.3	63.3	67.6	66.1	.....	
<i>British Columbia.</i>														
Spence's Bridge					25.5	31.3	49.5	50.8	62.4	68.2	75.8	73.3	.....	
<i>Newfoundland.</i>														
St. John's.....	54.6	45.1	35.0	26.7	24.6	23.2	27.5	35.6	43.8	52.6	59.3	57.9	40.5	
Harbor Grace									42.6	50.0	57.5	55.2	.....	

II.—HIGHEST TEMPERATURE in each Month at the Several Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

	1871.				1872.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
<i>Ontario.</i>												
Pembroke	89.9	78.9	42.5	47.8	38.0	34.3	61.0	72.8	78.8	99.0	96.9	93.9
Little Current	80.4	67.0	41.0	38.5	36.0	40.0	42.0	60.0	70.0	85.6	88.9	86.8
Pitzroy Harbor	89.0	74.0	40.4	45.0	40.0	42.3	46.0	72.0	77.0	97.0	94.0	95.0
Ottawa .....	.....	.....	.....	.....	.....	.....	.....	74.2	80.1	92.9	93.9	93.2
Cornwall	85.8	79.8	42.0	51.4	.....	37.2	53.2	78.4	79.3	90.3	91.3	91.8
Brockville .....	.....	.....	55.0	48.0	37.0	45.0	37.0	72.5	77.0	83.0	88.0	87.0
Gravenhurst	83.0	73.7	39.5	38.2	34.8	50.1	39.6	74.8	77.3	91.1	94.5	90.2
Stayner	92.2	80.2	45.2	42.2	.....	52.2	40.0	75.0	78.0	96.0	96.0	94.2
Barrie	92.9	77.9	59.1	45.4	53.6	51.6	42.6	74.6	82.1	95.3	95.6	89.1
Peterborough	88.6	75.8	50.4	47.6	44.1	48.2	45.7	79.2	86.3	93.5	96.3	98.2
Kincardine	84.5	72.0	44.0	45.9	36.0	45.5	41.3	68.9	72.5	88.3	90.5	94.0
Belleville	81.4	71.8	55.7	47.0	39.7	44.4	40.5	73.2	78.1	89.4	91.7	95.1
North Gwillimbury	90.0	79.0	46.0	42.5	40.0	50.0	38.6	76.0	78.0	91.5	93.5	91.5
Point Clark	82.0	65.0	48.0	40.0	33.0	44.0	42.0	67.0	74.0	84.0	86.0	86.0
Oshawa .....	.....	.....	.....	.....	.....	.....	.....	66.0	78.0	88.0	.....	91.0
Thornhill	72.0	66.0	49.0	38.0	40.0	.....	.....	.....	.....	.....	.....	.....
Goderich	83.0	73.2	47.1	48.2	37.4	49.5	41.7	76.7	77.5	89.2	92.4	87.8
Brampton	79.0	68.0	41.0	44.0	38.0	43.0	35.0	65.0	74.0	95.0	96.0	84.0
Toronto	81.8	72.2	47.1	48.2	41.8	45.2	46.4	70.0	78.8	88.0	96.0	91.8
Stratford	83.2	72.6	45.1	44.3	35.2	42.1	37.5	74.1	77.3	87.6	88.8	85.8
Dundas	90.0	80.0	44.0	48.0	38.0	48.0	39.5	78.0	72.0	96.0	98.0	84.0
Hamilton	91.8	79.8	60.8	54.8	49.9	52.5	51.3	76.2	84.3	92.4	95.2	93.3
Woodstock	84.8	72.3	49.3	47.8	46.0	46.9	42.0	78.5	83.0	90.5	94.8	91.8
Ingersoll .....	.....	.....	.....	40.0	38.0	41.0	30.6	66.4	83.0	91.0	94.0	90.5
Glencoe	78.0	74.0	48.0	48.0	40.0	42.0	43.6	70.6	74.0	94.0	86.0	.....
London .....	.....	.....	.....	45.0	41.0	46.0	43.0	79.0	83.0	91.0	94.0	92.0
Simcoe	88.3	75.5	58.8	51.8	52.0	52.0	48.5	77.0	85.1	96.2	97.0	95.0
Windsor	91.1	82.8	56.2	51.1	46.5	48.8	56.2	85.5	86.4	96.4	97.2	94.5
<i>Quebec.</i>												
Montreal	91.0	83.0	52.3	46.2	42.0	44.6	52.1	80.0	84.2	92.2	93.8	94.0
Quebec	82.5	70.0	44.2	44.5	32.6	34.2	39.5	62.4	71.4	93.5	91.6	87.0
Huntingdon	86.0	81.0	45.0	55.0	41.0	38.0	46.0	76.0	78.0	95.0	91.0	89.0
Richmond .....	.....	76.0	64.0	40.0	34.0	32.0	42.0	72.0	76.0	94.0	94.0	89.0
Cape Rezier	64.0	51.0	42.0	36.0	33.0	33.0	33.0	45.0	52.0	69.9	74.0	72.0
<i>Nova Scotia.</i>												
Digby	78.0	72.0	48.0	50.0	44.0	44.0	46.0	58.0	70.0	86.0	84.0	78.0
Wolfville	76.0	73.0	55.4	52.5	44.2	40.4	45.0	50.1	69.9	86.1	84.4	85.5
Halifax	89.9	71.8	54.3	48.8	45.1	42.6	46.8	62.2	71.0	87.3	88.8	93.1
Glace Bay	75.0	71.0	53.0	50.0	50.0	41.0	43.0	52.0	67.0	82.0	84.0	86.0
Pictou	78.5	72.5	55.6	52.5	45.5	42.0	41.0	56.5	66.5	84.0	85.3	84.0
Sydney	74.3	71.2	54.4	48.2	46.8	39.0	44.3	53.6	63.0	81.4	81.0	86.3
Windsor	76.0	72.0	56.5	50.8	42.4	41.4	47.0	63.0	73.0	84.5	88.6	86.4
Yarmouth	79.3	69.8	53.6	49.0	51.2	43.7	47.7	56.6	.....	.....	81.0	.....
Liverpool	83.5	75.5	58.5	52.0	.....	.....	.....	.....	.....	.....	.....	.....
King's College, Windsor .....	.....	.....	.....	.....	.....	41.0	48.3	58.0	69.0	.....	.....	.....
<i>New Brunswick.</i>												
St. John	77.0	47.0	46.0	45.0	38.0	37.0	41.0	58.0	65.8	79.0	78.0	80.0
Bass River	77.6	71.1	52.2	46.7	36.8	39.1	39.3	59.6	68.9	89.0	87.0	87.2
Petersville	75.0	71.0	46.0	44.0	39.0	40.0	46.0	61.0	72.0	90.0	.....	.....
Fredericton .....	.....	.....	.....	47.0	39.0	37.0	42.0	61.0	73.0	88.0	87.0	89.0
Bathurst .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	89.0	92.0	.....

.—HIGHEST TEMPERATURE in each Month at the Several Stations in the
Dominion of Canada, &c.—*Continued.*

	1871.				1872.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
<i>Manitoba.</i>												
Winnipeg	•	•	•	•	•	•	•	•	•	•	•	•
St. John's College	72·0	45·0	32·0	27·0	35·0	31·0	59·0	78·0	91·0	99·5	93·5	
<i>British Columbia.</i>												
Spence's Bridge					48·0	58·0	78·0	82·0	89·0	91·0	98·0	98·0
<i>Newfoundland.</i>												
St. John's	77·0	70·5	54·1	49·0	44·5	37·0	45·0	50·5	62·0	75·0	79·0	80·0
harbor Grace									71·0	75·0	77·5	74·0

III.—LOWEST TEMPERATURE in each Month at the several Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

	1871.				1872.								
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Mean.
Ontario.													
Pembroke.....	23.9	22.1	-14.0	-34.0	-22.6	.....	-28.0	9.0	33.9	40.9	52.8	43.0	
Little Current.....	42.0	30.0	-9.0	-35.0	-15.0	-7.0	-15.0	7.0	27.0	49.7	51.7	43.9	
Fitzroy Harbor.....	31.9	27.0	-12.0	-27.5	-20.0	-20.0	-20.0	20.0	40.0	48.0	57.7	50.5	
Ottawa.....	29.7	27.7	6.7	-23.7	-13.3	-14.2	-22.8	16.4	32.4	40.8	52.4	46.8	
Cornwall.....	.....	.....	6.0	-28.0	-17.0	-7.0	-23.0	17.2	32.9	36.8	50.2	42.9	
Brookville.....	29.0	24.6	-11.0	-41.6	-21.0	-12.8	-20.9	9.0	30.0	35.0	50.0	42.0	
Gravenhurst.....	24.9	27.9	-3.0	-29.0	.....	-4.0	-16.0	16.0	26.0	38.0	51.0	48.1	
Stayner.....	28.0	26.2	-5.1	-36.1	-11.1	-4.9	-22.4	11.6	25.1	37.0	50.2	45.8	
Barrie.....	18.4	14.9	-11.4	-38.5	-14.8	-6.3	-19.2	18.7	30.0	36.7	51.7	46.0	
Peterborough.....	35.0	31.0	11.0	-10.0	5.0	1.6	-5.0	20.6	31.0	34.5	52.3	50.5	
Kincardine.....	29.8	27.9	-5.8	-29.8	-9.8	-2.5	-15.7	20.1	32.6	44.5	54.5	48.0	
Bellefleur.....	36.0	28.5	4.0	-28.0	-9.5	0.0	-15.0	18.0	34.5	49.5	60.0	52.0	
North Gwillimbury.....	36.0	33.0	10.0	-6.0	0.0	0.0	-6.0	21.0	30.0	46.0	56.0	53.6	
Point Clark.....	.....	.....	.....	.....	.....	.....	.....	22.0	38.0	50.0	.....	51.0	
Oshawa.....	36.0	28.9	4.0	-26.0	2.0	.....	.....	.....	.....	.....	.....	.....	
Thornhill.....	29.9	30.2	3.9	-10.0	-1.8	-4.0	-7.7	17.7	31.2	40.7	44.6	46.3	
Goderich.....	38.0	30.0	3.0	-11.0	0.0	0.0	-7.0	26.0	36.0	53.0	62.0	58.0	
Brampton.....	34.0	28.6	0.0	-21.0	-2.5	-3.6	-10.8	22.7	32.0	41.8	52.2	51.0	
Toronto.....	24.7	27.1	-1.0	-16.4	-6.0	-11.9	-10.4	16.2	28.1	41.4	48.0	48.5	
Stratford.....	42.0	38.0	-4.0	-14.0	0.0	0.0	-3.0	28.0	38.0	56.0	64.0	60.0	
Dundas.....	25.7	20.4	-8.9	-18.0	-2.6	-1.0	-3.5	24.0	31.7	41.1	54.5	53.6	
Hamilton.....	27.1	20.4	0.5	-15.3	-8.4	-15.0	-10.5	19.8	25.7	39.0	44.3	45.5	
Woodstock.....	.....	.....	.....	-17.0	-5.0	-10.0	-8.0	18.4	35.0	50.0	50.6	49.1	
Ingersoll.....	42.0	40.0	24.0	-14.0	-3.0	-4.0	-4.4	26.6	36.0	48.0	56.0	.....	
Glencoe.....	.....	.....	.....	-17.5	-6.0	-13.0	-5.0	15.0	26.5	41.0	44.0	46.0	
London.....	31.4	26.4	7.8	-12.8	-2.5	-12.5	-8.0	24.0	30.0	40.5	49.8	48.8	
Simcoe.....	30.3	27.5	9.1	-19.3	-7.3	-12.0	-7.5	22.2	31.4	49.1	53.0	50.2	
Windsor.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quebec.													
Montreal.....	38.4	29.8	-6.6	-22.9	-9.9	-2.4	-19.8	25.4	38.0	45.5	53.3	51.0	
Quebec.....	52.6	33.4	-9.5	-22.2	-17.2	-12.5	-17.5	8.0	34.2	39.5	45.5	49.0	
Huntingdon.....	32.0	26.0	-6.0	-26.0	-17.0	-14.0	-23.0	22.0	38.0	48.0	54.0	48.0	
Richmond.....	.....	22.0	-8.0	-22.0	-20.0	-18.0	-17.0	24.6	39.0	46.0	50.0	48.0	
Cape Rozier.....	40.0	30.0	10.0	-15.0	-10.0	-5.0	-3.0	26.0	32.0	37.0	53.0	52.0	
Nova Scotia.													
Digby.....	38.0	30.0	6.0	2.0	-4.0	2.0	-6.0	26.0	38.0	40.0	54.0	52.0	
Wolfville.....	40.8	35.6	7.3	0.0	-3.9	5.1	-8.5	26.3	35.9	41.3	53.0	55.7	
Halifax.....	35.1	28.3	8.2	-3.7	-2.2	0.6	-5.2	19.5	28.2	38.4	48.3	47.9	
Glace Bay.....	33.0	25.0	10.0	1.0	-5.0	-2.0	0.0	19.0	27.0	34.0	39.0	44.0	
Pictou.....	36.0	27.0	3.0	-10.0	-7.5	-7.5	-10.0	13.0	29.5	38.5	44.0	43.5	
Sydney.....	31.4	22.7	10.9	-1.0	-10.2	-5.7	-9.7	13.0	25.0	33.6	35.5	39.1	
Windsor.....	35.0	24.5	7.5	-3.7	-4.0	-5.9	-11.0	15.0	27.5	.....	47.0	.....	
Yarmouth.....	34.5	29.5	10.6	4.3	2.0	6.2	-1.0	23.0	.....	.....	47.0	.....	
Liverpool.....	30.0	28.0	8.0	-7.0	.....	.....	.....	.....	.....	.....	.....	.....	
King's College, Windsor.....	.....	.....	.....	.....	.....	-1.0	-7.0	18.7	29.5	.....	.....	.....	

III.—LOWEST TEMPERATURE in each Month at the several Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.—*Continued.*

	1871.				1872.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
<i>New Brunswick.</i>	.	.	.	.	.	.	.	.	.	.	.	.
St. John	39·0	29·0	0·0	-13·0	-9·0	-4·0	-10·0	24·0	33·0	38·0	50·0	48·0
Bass River	32·0	23·3	0·0	-14·3	-10·0	-13·0	-17·4	21·6	28·4	39·0	42·3	36·8
Petersville	28·0	24·0	-3·0	-13·0	-9·0	-25·0	-13·0	28·0	36·0	41·0	.....	.....
Fredericton .....	.....	.....	.....	-19·8	-15·0	-16·0	-18·0	17·0	33·0	35·0	48·0	45·0
Bathurst .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50·0	42·0
<i>Manitoba.</i>												
Winnipeg .....	.....	14·0	-28·0	-35·0	-34·0	-31·0	-26·0	-6·0	28·0	42·0	42·7	43·3
St. John's College .....	.....	.....	.....	.....	.....	.....	-24·0	-1·5	26·5	39·0	.....	.....
<i>British Columbia.</i>												
Spence's Bridge .....	.....	.....	.....	.....	-4·0	-5·0	28·0	32·0	36·0	54·0	58·0	52·0
<i>Newfoundland.</i>												
St. John's	38·0	33·0	17·0	2·0	3·5	3·5	4·0	22·5	24·0	35·5	40·5	43·0
Harbor Grace .....	.....	.....	.....	.....	.....	.....	.....	.....	32·0	41·0	48·0	47·0

IV.—MEAN TEMPERATURE for each Quarter and for the Year from September, 1871, to August, 1872, with the Highest and Lowest Temperatures in the Year, and the Dates of their Occurrence.

	Mean Temperature, 1871-1872.					Highest Temperature.		Lowest Temperature.	
	Autum.	Winter.	Spring.	Summer.	Year.	Temperature.	Time of Occurrence.	Temperature.	Time of Occurrence.
<i>Ontario.</i>									
Pembroke	40.5	11.5	35.2	71.7	39.7	99.0	20 June	-34.0	21 December.
Little Current	45.0	15.7	33.6	66.5	40.2	88.9	15 July	-35.0	21 do
Fitzroy Harbor	42.8	13.5	37.0	70.9	41.0	97.0	27 June	-27.5	21 do
Ottawa .....	.....	.....	.....	68.8	.....	93.9	15 July .....	.....	.....
Cornwall	43.6	15.3	36.7	68.4	41.0	91.8	9 August	-23.7	21 do
Brockville .....	.....	15.8	36.6	67.9	.....	88.0	{ 21 June	-28.0	21 do
Gravenhurst	41.3	14.1	33.8	67.7	39.2	94.5	{ 15 July	-41.0	21 do
Stayner	42.2	.....	35.8	65.7	.....	96.0	{ 15 June	-29.0	21 do
Barrie	45.4	18.9	37.1	68.6	42.5	95.6	{ 9 July	-36.1	21 do
Peterborough	42.6	17.2	38.4	70.9	42.3	98.2	8 August	-38.5	21 do
Kincardine	44.9	21.3	36.0	66.2	42.1	94.0	21 do	-10.0	21 do
Belleville	44.8	18.4	38.2	69.8	42.8	95.1	22 do	-29.8	21 do
North Gwillinbury	46.0	19.6	37.1	70.2	43.2	93.5	9 July	-28.0	21 do
Point Clark	45.8	20.8	35.1	65.5	41.8	86.0	9 do	-6.0	21 do
Thornhill	43.9	.....	.....	.....	.....	.....	.....	-26.0	21 do
Goderich	46.3	25.6	37.8	67.9	44.4	92.4	2 July	-10.0	21 do
Brampton	44.2	19.0	37.5	69.3	42.5	96.0	2 do	-11.0	20 do
Toronto	44.6	21.0	37.4	67.8	42.5	96.0	1 do	-21.0	21 do
Stratford	43.0	18.6	37.1	67.6	41.6	98.8	2 do	-16.4	21 do
Dundas	43.2	21.0	40.2	70.3	43.7	98.0	2 do	-14.0	21 do
Hamilton	46.2	22.9	40.2	71.3	45.1	95.2	3 do	-18.0	21 do
Woodstock	43.7	19.8	38.5	68.9	42.7	94.8	14 do	-15.3	21 do
Ingersoll .....	.....	18.3	36.5	68.3	.....	94.0	2 do	-17.0	21 do
Glencoe	46.0	19.7	39.7	.....	.....	94.0	30 June	-14.0	21 do
London .....	.....	19.9	.....	67.3	.....	94.0	9 July	-17.5	21 do
Simcoe	46.0	22.8	41.3	70.9	45.3	97.0	15 do	-12.8	21 do
Windsor	48.4	22.0	43.3	72.4	46.5	97.2	2 do	-19.3	21 do
<i>Quebec.</i>									
Montreal	45.6	19.2	41.3	70.5	44.2	94.0	9 August	-22.9	21 do
Quebec	40.8	11.2	33.6	66.0	37.9	93.5	22 June	-22.2	21 do
Huntingdon	45.6	14.7	37.2	68.5	41.5	95.0	20 do	-26.0	21 do
Richmond .....	.....	14.1	36.1	65.8	41.5	94.0	{ 21 June	-22.0	21 do
Cape Rozier	39.3	13.4	29.7	55.6	34.5	74.0	{ 16 July	-15.0	30 do
<i>Nova Scotia.</i>									
Digby	46.1	24.5	37.0	62.0	42.4	86.0	30 June	-6.0	6 March.
Wolfville	45.6	23.7	26.1	.....	.....	86.1	30 do	-8.5	6 do
Halifax	45.3	24.1	35.7	62.0	41.8	93.1	9 August	-5.2	6 do
Glace Bay	45.5	22.7	33.7	58.7	40.1	86.0	10 do	-5.0	8 January.
Pictou	45.3	21.2	34.2	61.2	40.5	85.3	4 July	-10.0	22 December.
Sidney	44.6	21.8	33.1	58.6	39.5	86.3	10 August	-10.2	30 January.
Windsor	45.0	22.5	35.7	.....	.....	88.6	4 July	-11.0	7 March.
Yarmouth	45.5	27.2	.....	.....	.....	81.0	8 do	-1.0	7 do
Liverpool	45.3	.....	.....	.....	.....	.....	.....	.....	.....
King's College, Windsor .....	.....	.....	37.2	.....	.....	.....	.....	.....	.....

IV.—MEAN TEMPERATURE for each Quarter and for the Year from September, 1871, to August, 1872, with the Highest and Lowest Temperatures in each Year, and the Dates of their Occurrence.—*Continued.*

	Mean Temperature, 1871-1872.					Highest Temperature.		Lowest Temperature.	
	Autumn.	Winter.	Spring.	Summer.	Year.	Temperature.	Time of Occurrence.	Temperature.	Time of Occurrence.
<i>New Brunswick.</i>									
St. John.....	43·9	20·4	34·8	60·4	39·9	80·0	23 August....	-13·0	22 December.
Bas River.....	40·3	15·8	33·2	63·2	38·2	89·0	30 June.....	-17·4	6 March.
Petersville.....	41·1	16·7	35·4	.....	.....	90·0	30 do.....	-25·0	1 February.
Fredericton.....	.....	16·5	36·8	65·3	.....	89·0	9 August.....	-19·8	22 December.
Bathurst.....	.....	.....	.....	.....	.....	93·0	10 do.....	.....	.....
<i>Manitoba.</i>									
Winnipeg.....	.....	0·5	29·1	65·7	.....	99·5	July.....	-35·0	25 do
St. John's College.....	.....	.....	30·2	.....	.....	.....	.....	.....	.....
<i>British Columbia.</i>									
Spence's Bridge.....	.....	.....	54·2	72·4	.....	98·0	{ 11 July .. } { 13 August }	.....	.....
<i>Newfoundland.</i>									
St. John's.....	44·9	24·8	35·6	56·6	40·5	80·0	11 August....	2·0	30 do
Harbor Grace.....	.....	.....	.....	54·2	.....	77·5	10 July.....	.....	.....

V.—SEPTEMBER, 1871.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brookville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's, Newfoundland.
1	•	•	62.8	53.3	54.3	58.0	60.5	•	60.5	67.0	63.3	63.4	58.3	•	72.0
2	•	•	67.8	59.1	63.3	60.4	62.5	•	62.0	68.6	62.3	59.4	57.3	•	60.5
3	•	•	67.5	66.1	•	69.9	68.7	•	69.0	73.2	66.3	64.0	65.7	•	67.0
4	•	•	74.5	71.5	73.3	68.4	73.6	•	69.8	75.9	63.0	55.5	62.7	•	60.5
5	•	•	74.5	73.8	80.7	72.0	76.8	•	74.0	77.0	65.5	59.6	65.7	•	61.5
6	•	•	67.7	63.4	65.3	68.8	67.1	•	75.0	74.3	62.9	66.9	61.0	•	70.0
7	•	•	59.5	49.0	51.7	55.6	54.5	•	57.8	63.0	60.5	65.6	53.3	•	66.0
8	•	•	65.0	53.5	52.3	54.1	53.5	•	51.5	60.0	51.9	52.6	52.0	•	56.0
9	•	•	64.2	66.0	61.3	61.7	63.2	•	62.2	66.1	53.1	51.9	53.0	•	51.0
10	•	•	62.3	•	•	56.9	54.3	•	54.5	63.3	57.2	58.0	56.0	•	60.0
11	•	•	64.2	49.2	50.3	52.0	54.4	•	54.5	62.6	56.3	53.2	57.3	•	56.0
12	•	•	64.0	50.9	51.3	55.3	63.3	•	61.0	64.6	53.5	47.8	53.7	•	51.0
13	•	•	•	50.6	51.7	55.9	51.6	•	53.8	56.8	54.0	51.3	54.3	•	53.0
14	•	•	56.0	44.0	50.3	47.1	46.5	•	45.3	53.2	45.9	47.7	46.0	•	53.5
15	•	•	•	49.6	49.7	48.0	50.5	•	50.8	51.7	45.7	47.0	47.3	•	43.5
16	•	•	62.0	55.2	57.0	56.0	51.7	•	55.2	52.6	52.1	50.9	51.0	•	49.0
17	•	•	53.3	43.6	•	52.4	47.7	•	52.2	54.8	55.9	57.9	54.3	•	53.0
18	•	•	60.0	42.0	44.3	48.0	46.1	•	47.5	52.1	50.6	52.0	49.0	•	53.5
19	•	•	•	46.9	49.7	56.0	51.9	•	52.5	53.7	49.5	50.6	48.3	•	51.5
20	•	•	55.8	41.0	44.3	43.6	38.6	•	47.7	48.6	56.7	55.0	53.0	•	52.0
21	•	•	•	35.3	40.7	39.5	41.2	•	41.3	46.2	52.3	55.2	47.7	•	53.5
22	•	•	55.0	46.8	50.3	44.6	46.6	•	46.2	51.8	44.9	45.4	45.7	•	49.0
23	•	•	60.5	58.6	57.3	63.4	63.5	•	60.8	58.7	46.6	48.2	50.0	•	48.0
24	•	•	56.3	52.3	•	58.4	62.0	•	59.5	69.5	51.9	49.3	52.0	•	48.5
25	•	•	53.0	52.4	55.0	50.7	•	•	60.0	60.8	55.2	48.3	53.7	•	47.0
26	•	•	47.0	46.4	47.0	45.9	53.2	•	53.0	55.1	54.0	43.0	55.0	•	48.5
27	•	•	46.7	46.1	46.0	43.4	50.7	•	52.2	53.4	57.6	49.2	56.3	•	50.5
28	•	•	44.5	42.4	43.3	44.0	51.3	•	49.5	50.6	53.3	54.9	52.3	•	53.0
29	•	•	49.5	36.7	43.7	42.5	44.6	•	47.0	47.1	51.2	51.4	49.0	•	53.5
30	•	•	54.5	41.7	50.0	45.8	46.8	•	45.0	51.8	48.6	47.0	49.0	•	47.5
	•	•	59.6	52.1	51.8	53.7	55.2	•	55.7	55.4	54.7	53.4	53.7	•	54.6

VI.—OCTOBER, 1871.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's, Newfoundland.
1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	•	50.7	64.5	53.5	•	55.2	51.1	•	50.3	50.9	48.1	45.9	47.3	•	47.5
3	•	60.3	61.4	57.6	61.0	57.7	55.8	•	54.8	55.1	47.4	45.3	47.7	•	40.0
4	•	53.3	55.0	51.3	56.5	56.8	53.3	•	53.3	53.6	49.6	44.0	58.3	•	48.0
5	•	39.7	51.0	47.4	51.7	53.1	50.1	•	53.5	53.6	55.4	51.7	59.3	•	49.0
6	•	38.0	51.0	54.5	57.0	61.6	54.1	•	52.3	56.3	52.4	50.7	51.0	•	55.7
7	•	43.3	44.5	46.7	47.0	50.7	50.1	•	59.3	57.4	57.9	53.0	55.7	•	48.0
8	•	49.3	49.5	35.7	37.1	39.2	41.1	•	47.2	52.5	58.5	60.0	52.0	•	52.7
9	•	43.0	56.7	54.1	•	53.5	49.9	•	48.5	48.3	46.6	48.0	45.7	•	60.5
10	•	40.7	63.7	62.7	63.5	65.2	63.7	•	64.3	59.9	48.7	48.6	49.0	•	52.0
11	•	42.7	60.5	59.3	58.0	61.3	69.7	•	69.8	67.0	57.5	48.5	53.7	•	40.3
12	•	43.0	49.2	44.3	43.8	44.7	52.6	•	54.8	54.6	60.4	58.0	55.0	•	41.5
13	•	33.0	52.0	37.2	39.5	39.4	43.8	•	44.0	45.6	60.5	62.4	60.3	•	61.5
14	•	35.0	56.9	48.6	55.5	47.6	46.9	•	48.2	51.7	47.8	47.9	48.7	•	52.5
15	•	41.3	52.2	53.6	58.8	55.6	53.5	•	55.0	52.6	50.7	48.7	50.0	•	42.5
16	•	39.0	43.3	47.1	•	52.9	51.7	•	59.5	54.3	54.4	52.7	52.7	•	48.0
17	•	38.7	43.0	41.9	•	42.6	46.4	•	46.0	48.8	47.3	48.8	46.0	•	50.5
18	•	42.7	39.5	40.2	•	40.8	43.1	•	44.2	46.3	42.6	39.5	46.0	•	40.0
19	•	50.0	38.5	33.0	•	38.8	37.2	•	38.0	37.0	45.1	42.6	46.3	•	40.5
20	•	37.7	40.0	38.3	•	47.5	39.8	•	40.3	37.1	39.1	41.4	39.7	•	40.2
21	•	49.0	33.7	28.9	•	37.4	31.4	•	34.7	36.4	40.4	37.4	37.4	•	41.5
22	•	37.3	53.0	45.3	•	45.0	47.1	•	50.0	42.6	35.9	35.3	38.0	•	36.0
23	•	44.0	57.6	60.1	•	60.5	59.2	•	65.5	63.7	48.6	44.7	48.3	•	39.0
24	•	39.7	48.0	46.5	49.8	59.9	49.3	•	55.5	57.1	50.7	49.1	49.3	•	43.5
25	•	47.0	37.3	36.1	38.5	42.5	36.2	•	39.0	41.9	42.8	38.7	39.3	•	36.0
26	•	37.3	45.1	43.6	46.5	45.5	44.2	•	51.3	47.1	37.5	34.5	38.7	•	34.0
27	•	33.3	52.0	54.3	56.2	54.0	56.9	•	61.0	56.4	44.0	38.6	48.0	•	37.5
28	•	25.3	41.1	41.8	40.5	45.3	51.8	•	50.0	49.4	51.8	49.3	56.3	•	49.7
29	•	26.3	36.7	35.5	38.3	34.7	40.3	•	43.8	41.9	53.2	52.8	51.3	•	46.0
30	•	35.3	35.9	29.7	•	37.6	37.0	•	41.8	42.2	43.1	50.7	43.0	•	53.0
31	•	25.0	42.4	39.9	42.0	43.9	35.1	•	40.5	37.4	41.2	41.5	40.3	•	43.5
31	•	28.3	34.9	38.1	41.3	41.9	40.5	•	45.5	48.6	42.4	33.7	46.3	•	34.5
•	•	39.4	48.2	46.2	47.7	48.6	47.8	•	50.4	49.8	48.4	46.7	47.8	•	45.1

VII.—NOVEMBER, 1871.—MEAN DAILY TEMPERATURE corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brookville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's, Newfoundland.
1	0	36.5	32.9	30.2	37.0	41.4	37.0	40.0	40.0	40.2	45.5	41.1	45.0	0	34.2
2		30.2	35.3	35.1	39.4	38.4	36.3	34.7	40.8	35.5	34.2	39.6	33.0	.....	42.0
3		32.3	35.7	.....	34.3	33.6	30.2	28.5	35.0	38.4	30.0	33.5	31.0	.....	36.5
4		33.5	36.1	32.1	31.5	33.1	28.4	28.5	32.3	34.4	29.4	31.8	29.7	.....	33.5
5		32.0	28.0	26.6	.....	33.4	25.7	25.5	31.8	30.2	29.7	31.4	28.7	.....	32.0
6		36.5	26.5	22.1	27.7	26.6	25.5	26.8	33.8	31.9	31.8	33.0	33.0	.....	29.7
7		34.0	38.5	32.9	36.0	30.0	32.5	31.0	37.3	33.3	34.6	33.5	32.7	.....	32.0
8		33.8	37.7	35.3	38.3	35.7	32.5	33.7	38.3	35.2	32.2	34.5	29.7	.....	37.0
9		23.0	33.0	28.4	33.2	30.2	28.5	27.8	34.5	37.0	30.6	35.0	32.7	.....	38.0
10		19.0	33.1	29.9	34.0	34.4	29.0	31.5	34.8	33.8	32.9	32.6	32.7	.....	33.5
11		26.2	25.2	23.1	26.7	33.3	23.5	27.7	34.5	34.2	32.7	31.7	35.3	.....	36.5
12		31.2	30.5	17.8	.....	25.5	22.5	17.8	22.0	32.6	37.0	37.7	35.0	.....	36.0
13		14.0	39.0	29.2	33.0	32.2	24.0	20.5	24.8	30.8	33.1	37.3	31.7	.....	34.0
14		8.3	33.0	34.6	36.4	33.1	31.5	33.5	38.0	35.8	35.0	36.4	30.3	.....	37.7
15		17.2	16.5	20.7	27.0	27.2	37.0	35.0	38.8	36.2	34.4	32.9	34.7	.....	36.0
16		29.7	17.8	20.7	24.4	22.1	30.5	29.5	32.8	36.4	36.3	34.0	33.3	.....	35.2
17		14.2	26.1	25.6	29.2	27.2	29.5	28.7	30.7	37.0	37.4	38.2	35.7	.....	39.0
18		5.8	30.8	26.1	30.3	.....	26.0	26.8	32.5	38.7	33.4	34.1	32.0	.....	34.5
19		8.3	37.9	31.9	.....	35.2	28.5	29.2	35.3	32.8	33.3	32.4	30.7	.....	31.5
20		8.5	38.6	34.4	36.5	35.6	30.5	39.5	41.8	39.1	33.4	31.8	35.7	.....	30.0
21		-10.0	32.7	31.6	32.5	30.3	34.5	34.0	38.0	38.4	45.7	43.5	42.3	.....	38.2
22		-14.3	19.5	22.5	25.7	25.9	28.5	36.3	36.0	36.1	43.3	47.3	34.7	.....	47.0
23		-3.7	22.3	19.2	19.0	20.4	18.5	21.0	20.5	24.2	34.7	36.2	27.3	.....	42.7
24		-12.5	32.1	30.4	33.5	31.4	29.0	34.0	35.0	32.6	27.3	26.7	25.7	.....	27.2
25		-7.7	33.3	31.1	33.0	27.4	31.0	33.3	34.8	36.1	38.2	36.1	33.3	.....	28.0
26		-15.0	26.3	35.4	.....	35.0	32.0	37.5	36.5	35.8	34.5	34.8	32.7	.....	36.2
27		-16.3	4.7	2.7	2.5	20.3	2.0	8.5	14.0	16.4	36.8	33.8	28.0	.....	38.5
28		-14.0	7.7	2.5	5.7	10.2	-0.8	3.5	7.0	17.1	16.0	27.1	5.3	.....	36.5
29		-9.5	2.7	2.3	9.5	9.2	-2.0	3.8	4.5	5.5	18.2	17.6	12.0	.....	30.0
30		-12.5	-0.8	0.7	10.5	12.6	-4.5	3.5	0.0	5.9	10.4	14.9	5.3	.....	30.5
.....		12.2	27.2	25.5	27.1	28.7	25.4	27.1	30.6	31.6	32.7	33.7	30.3	.....	35.0

VIII.—DECEMBER, 1871.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's, New- foundland.
1	.	0.2	11.1	4.1	14.5	18.5	2.0	7.5	4.3	9.2	15.5	15.4	11.3	9.2	26.5
2	.	9.8	28.6	20.2	30.5	24.5	11.5	16.3	11.5	18.1	16.8	16.3	12.0	8.6	24.0
3	.	15.5	35.4	32.4	.....	33.3	29.0	32.0	33.0	35.0	21.0	21.3	26.7	.....	22.4
4	.	17.5	5.3	15.8	22.5	25.2	26.5	32.3	36.3	38.8	38.3	27.9	39.7	34.1	28.6
5	.	3.8	4.7	9.3	0.3	7.0	10.0	1.8	2.8	0.9	32.5	39.5	24.0	15.4	36.4
6	.	0.6	21.8	10.2	19.0	14.4	3.0	6.0	2.0	4.6	17.4	22.0	5.7	0.5	30.8
7	.	7.0	20.0	22.7	28.0	28.2	17.5	28.0	26.8	23.8	26.9	24.7	25.0	17.9	29.2
8	.	2.3	17.7	18.6	21.0	19.3	19.0	20.3	21.5	23.3	33.9	32.2	28.7	21.5	32.5
9	.	7.0	20.5	13.8	19.2	15.4	8.5	14.0	9.2	18.2	20.7	25.9	16.3	11.0	28.0
10	.	20.5	27.1	24.6	.....	22.5	25.0	27.0	25.6	21.0	16.3	16.3	24.8	.....	24.8
11	.	15.2	24.7	25.1	26.0	29.6	18.0	20.0	21.0	23.8	29.3	28.3	22.7	16.6	29.7
12	.	5.3	16.0	17.6	19.0	30.0	15.0	10.0	9.5	25.1	26.2	26.7	20.7	17.9	29.6
13	.	1.5	9.7	15.4	15.8	24.6	15.0	15.7	16.5	15.5	19.3	22.2	13.7	9.3	19.8
14	.	9.0	4.0	3.5	11.3	16.2	10.5	13.0	11.5	15.0	26.0	26.9	20.0	18.4	26.1
15	.	22.3	25.6	14.7	12.7	19.4	6.5	1.8	10.2	11.9	22.2	26.6	16.3	14.1	30.4
16	.	6.5	30.4	23.1	28.8	25.3	7.0	13.3	9.3	13.2	22.2	23.1	14.0	9.2	25.0
17	.	17.8	27.9	.....	28.0	31.1	31.0	32.8	30.6	30.5	24.9	25.7	15.6	23.1	.....
18	.	22.7	14.0	20.4	21.0	23.0	24.6	26.0	25.2	28.9	30.9	28.1	28.7	21.0	29.7
19	.	10.8	6.5	7.6	13.0	16.7	2.4	9.0	9.0	13.6	29.1	29.0	28.0	25.4	31.8
20	.	5.5	20.5	16.4	10.0	1.9	11.9	6.5	5.5	2.4	29.1	31.8	18.0	12.8	37.1
21	.	9.8	0.5	10.3	3.5	5.7	10.8	13.0	21.0	12.5	4.4	15.0	4.0	10.7	29.0
22	.	2.0	10.6	12.5	17.5	11.4	9.9	12.0	10.3	10.6	6.5	7.3	2.3	1.1	19.0
23	.	16.8	26.3	35.6	34.5	36.4	33.8	42.8	44.5	31.6	27.6	17.4	24.7	14.6	21.1
24	.	22.5	30.3	30.0	28.9	32.0	32.7	34.3	31.8	43.3	40.3	39.3	36.4	37.2	.....
25	.	27.5	2.5	12.4	.....	26.7	18.5	29.0	30.8	33.6	35.4	32.5	37.7	35.4	34.7
26	.	22.5	12.7	7.2	10.7	13.7	3.7	7.5	7.6	9.5	34.2	31.6	30.7	23.7	33.9
27	.	11.7	2.3	6.5	12.2	.....	6.5	10.0	8.5	12.5	35.2	29.4	30.3	18.5	31.3
28	.	12.2	14.5	7.3	11.5	4.9	6.9	9.3	10.2	13.8	12.6	11.3	9.0	2.3	18.3
29	.	10.0	9.5	17.9	18.3	17.2	16.1	20.7	20.5	20.2	25.6	18.4	19.7	12.7	20.7
30	.	12.0	18.8	17.8	20.5	20.1	12.5	6.5	3.8	8.8	10.0	9.4	7.3	1.2	8.4
31	.	27.8	30.8	31.4	.....	40.1	20.9	35.5	28.3	28.5	20.8	11.2	21.3	7.3	6.6
....	.	6.8	15.6	15.2	15.9	20.2	12.5	16.3	15.7	18.2	24.6	23.6	20.5	14.4	26.7

IX.—JANUARY, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N. B.	Fredericton.	St. John's, Newfoundland.
1	1.0	-14.5	12.0	10.1	.....	22.9	12.1	20.0	21.0	26.6	35.7	30.5	30.3	22.3	25.7
2	14.2	-12.2	21.7	14.3	.....	21.5	11.4	10.0	7.5	13.0	13.6	13.9	10.3	5.3	17.3
3	27.0	0.0	21.6	29.1	.....	32.8	21.5	19.3	19.0	15.7	13.4	8.2	11.3	5.1	13.7
4	27.0	9.0	25.5	27.2	.....	31.6	30.1	27.5	24.8	26.8	32.1	20.5	31.3	23.2	17.5
5	24.8	4.5	31.2	.....	.....	30.9	31.8	30.2	29.5	30.8	41.6	40.5	31.0	26.9	34.9
6	32.0	5.7	4.0	3.7	.....	24.7	5.4	11.0	11.0	17.8	33.1	34.6	24.3	18.4	41.7
7	35.0	8.3	-5.2	-12.1	.....	8.5	-9.6	-5.5	-6.5	-3.4	4.6	6.5	-1.3	-2.2	22.3
8	35.0	14.8	10.5	-4.2	.....	14.7	-7.9	-0.3	-4.7	4.2	16.4	19.8	11.3	9.5	15.7
9	27.0	16.0	28.0	18.9	.....	23.6	12.5	20.8	18.0	18.7	22.3	16.9	16.3	14.2	21.7
10	22.0	21.8	33.4	28.8	.....	26.0	27.0	29.2	27.0	26.9	18.7	16.2	18.7	18.4	21.0
11	21.0	15.6	30.5	31.2	.....	31.4	37.6	36.8	37.5	31.2	18.7	14.1	18.7	14.1	21.4
12	21.2	1.5	30.7	27.0	.....	33.0	31.8	33.5	33.0	35.1	32.7	26.9	31.3	29.7	21.3
13	41.0	-8.8	6.5	9.6	.....	26.7	11.9	21.5	20.8	24.0	34.1	28.9	34.3	29.0	29.0
14	36.0	16.7	-4.7	-7.9	.....	10.3	-2.6	1.8	3.8	11.8	24.7	27.8	16.7	11.0	30.3
15	28.5	9.5	19.1	11.2	.....	15.0	-1.5	4.7	4.0	7.0	13.3	19.8	8.0	4.3	32.3
16	30.5	2.3	16.0	8.4	.....	18.0	5.5	7.8	3.0	13.1	18.4	22.2	13.3	12.4	29.7
17	30.0	9.2	16.3	3.7	.....	.....	4.0	9.5	8.8	16.8	29.9	28.6	22.3	23.1	28.6
18	30.5	14.0	26.2	23.6	.....	24.9	24.1	22.7	23.0	18.8	26.8	32.3	23.3	22.2	33.1
19	25.5	8.2	26.5	25.2	.....	28.8	30.2	27.0	27.2	28.2	27.4	24.6	26.0	23.9	27.0
20	22.5	0.7	14.5	13.9	.....	28.7	25.0	28.5	29.3	29.1	33.8	26.9	32.0	26.0	28.0
21	18.3	18.5	21.0	21.3	.....	26.0	23.5	22.7	22.8	24.4	30.9	30.3	23.0	20.8	30.6
22	18.0	-13.0	10.5	23.4	.....	.....	30.2	26.3	30.3	29.6	27.7	20.5	25.3	18.3	21.0
23	19.7	-10.2	-3.2	-4.6	.....	10.2	-8.2	4.8	6.8	17.0	35.2	31.7	34.3	30.6	25.0
24	21.3	-11.5	6.0	-2.7	.....	11.5	-5.5	-1.0	-1.8	5.1	27.6	31.7	9.7	7.0	32.2
25	19.2	8.3	10.0	10.0	.....	11.8	11.0	13.0	13.8	12.0	9.9	10.2	5.3	3.5	24.7
26	20.0	1.7	15.0	13.9	.....	11.1	19.7	16.5	16.9	20.4	15.3	12.1	13.0	11.0	20.5
27	35.5	-19.8	15.2	16.7	.....	17.8	19.0	19.2	18.8	19.4	22.2	16.3	21.0	19.7	20.7
28	27.5	-15.3	10.9	16.2	.....	14.6	13.8	19.3	20.5	20.7	23.3	15.8	18.3	10.9	23.0
29	32.3	-15.0	3.4	0.2	.....	.....	3.2	7.0	8.3	12.3	20.6	15.4	20.0	13.0	24.2
30	28.5	-12.8	7.6	9.6	.....	4.0	8.0	11.0	9.8	14.7	14.2	7.9	11.0	9.2	18.5
31	29.7	-8.7	4.7	-2.2	.....	9.1	-5.0	8.0	8.0	16.3	14.5	13.1	9.7	5.9	16.0
	25.5	1.8	15.0	11.4	.....	19.7	13.2	16.0	15.8	18.9	23.6	21.4	19.4	15.9	24.6

X.—FEBRUARY, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N. B.	Fredericton.	St. John's, Newfoundland.
1	31.5	0.0	10.0	11.8	10.7	6.8	5.6	9.3	10.2	13.6	11.3	8.5	6.3	0.0	16.7
2	24.0	2.5	.....	6.3	7.5	6.5	5.0	6.5	8.3	20.1	15.4	8.8	15.3	11.8	16.8
3	13.5	4.5	.....	4.3	15.0	17.9	16.8	12.0	13.5	13.6	18.6	11.7	17.7	12.4	17.4
4	2.5	14.3	2.5	15.1	.....	22.7	16.9	23.0	23.8	27.4	32.2	28.1	20.3	19.5	22.7
5	6.0	7.0	9.5	15.0	20.1	22.3	25.2	25.8	25.0	28.5	28.7	25.2	26.0	27.4	27.0
6	20.5	10.0	9.7	14.0	18.5	18.9	19.0	20.5	22.5	21.3	32.0	28.6	31.7	30.9	25.9
7	23.0	3.0	14.5	7.3	13.8	9.3	2.6	1.5	5.8	16.6	25.1	24.8	20.7	15.0	26.2
8	29.7	0.5	.....	12.0	15.5	9.9	14.5	14.0	6.5	23.9	14.3	9.9	15.0	11.7	11.9
9	36.0	1.3	22.1	17.9	21.0	16.6	12.0	8.7	2.5	18.3	25.0	16.4	21.0	15.1	14.0
10	18.0	4.0	24.0	21.9	26.5	22.6	11.4	12.2	7.0	22.3	23.3	7.1	22.0	16.2	16.6
11	12.5	8.3	30.3	32.4	.....	30.6	23.3	19.3	19.0	23.4	30.1	16.2	23.7	25.9	19.4
12	5.8	12.0	28.5	30.6	31.3	30.7	31.5	31.0	25.0	31.4	32.2	26.9	29.7	29.4	27.2
13	20.0	22.5	28.1	34.8	28.8	31.8	37.1	28.2	30.3	30.7	28.7	27.3	27.7	26.9	32.9
14	46.0	9.0	10.5	12.8	15.0	7.6	25.8	15.0	20.0	22.1	28.6	23.3	29.3	24.7	35.3
15	40.0	7.0	14.5	12.2	17.3	13.2	15.8	15.8	14.8	16.8	32.4	33.6	29.7	28.9	33.4
16	41.5	15.0	22.0	19.9	23.0	21.8	20.1	20.8	20.8	19.7	29.9	32.6	29.3	29.9	33.8
17	42.7	15.0	9.7	7.4	11.5	18.4	5.6	5.7	2.8	17.9	23.7	26.4	18.7	17.2	30.8
18	39.5	23.3	9.9	10.9	.....	18.5	8.0	7.5	3.0	18.3	13.4	14.8	15.3	17.8	25.6
19	37.3	20.8	19.3	13.6	22.5	22.4	8.9	14.0	8.8	24.1	21.5	20.2	24.3	19.3	24.2
20	41.0	2.7	23.3	27.9	20.4	28.9	26.0	29.0	15.7	27.3	23.3	17.0	26.3	22.4	20.0
21	38.8	5.5	11.1	13.3	9.2	21.0	16.4	18.8	21.3	26.5	25.8	21.3	31.0	25.5	26.9
22	44.0	20.5	6.0	4.6	3.0	8.1	5.5	2.7	2.5	8.9	27.5	24.6	19.7	13.5	31.0
23	41.0	4.0	29.9	23.8	36.8	28.0	19.1	15.5	9.5	12.1	9.8	11.2	7.7	5.9	29.3
24	43.0	4.0	27.3	39.1	40.5	42.3	33.3	36.0	17.5	22.4	22.3	13.7	24.7	22.9	19.5
25	44.0	2.5	7.1	16.7	.....	23.4	19.3	24.5	25.7	28.3	29.5	21.1	31.7	31.9	20.8
26	44.0	15.2	6.2	4.6	8.5	12.8	4.3	6.3	4.5	9.1	29.3	31.3	20.3	15.5	28.3
27	42.7	26.5	11.6	5.4	12.5	15.7	8.0	10.3	7.3	15.2	11.8	21.9	8.0	7.4	30.2
28	41.5	12.3	10.7	6.9	11.8	21.0	3.2	9.5	5.0	17.6	26.6	17.6	20.3	19.4	25.5
29	37.5	3.3	4.8	1.6	0.5	13.6	1.7	4.0	2.0	11.6	23.2	24.9	16.3	12.9	27.5
	31.3	3.5	16.4	15.8	17.3	19.4	14.7	15.0	12.7	20.4	24.0	20.5	21.7	19.2	23.2

XI.—MARCH, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's Newfoundland.
1	42.3	12.8	6.4	-2.2	1.3	10.9	0.8	6.5	6.3	12.9	24.4	24.3	22.0	22.8	27.3
2	44.0	8.3	13.9	5.1	2.0	13.2	5.6	8.7	-1.2	17.4	21.8	15.9	21.3	21.5	17.2
3	43.5	-6.3	22.7	22.7	.....	21.3	25.7	20.8	19.3	23.3	19.5	22.0	15.3	17.4	23.7
4	48.0	-3.0	-6.5	-3.3	-4.5	8.5	-0.3	4.0	7.6	12.9	24.1	18.7	25.0	23.9	30.8
5	48.5	10.2	-4.6	-11.5	-6.5	-2.4	-12.5	-10.8	-12.8	-8.3	20.1	18.5	11.3	3.4	30.4
6	45.5	23.0	6.0	5.0	10.0	5.6	-0.2	3.0	0.8	2.2	8.4	10.1	-2.7	-6.0	26.8
7	47.5	25.0	.....	8.8	12.0	16.2	12.5	17.0	11.7	17.8	8.9	15.4	11.0	10.1	33.4
8	41.5	21.7	19.6	14.1	19.0	16.3	7.3	8.0	4.5	19.4	18.4	16.2	18.0	18.3	22.8
9	44.5	18.0	21.9	21.9	30.0	27.4	22.0	15.3	18.0	17.8	22.9	19.6	21.7	19.6	24.3
10	46.5	7.8	26.9	25.5	.....	26.2	31.6	30.5	33.7	32.6	32.2	16.2	33.0	30.8	21.7
11	43.5	11.8	8.7	17.3	12.8	26.7	17.3	18.7	22.5	30.6	35.8	33.9	31.3	28.8	33.5
12	45.0	16.6	10.7	10.9	10.0	25.0	6.4	6.3	-0.3	12.4	14.6	15.4	9.3	5.3	20.1
13	41.0	-5.0	25.1	23.7	25.5	26.7	16.5	12.2	7.5	14.6	14.7	19.2	12.7	15.4	28.2
14	39.0	-7.7	14.6	20.8	20.5	24.3	24.9	25.0	27.7	29.1	21.3	20.0	23.3	24.6	28.7
15	44.7	5.6	11.4	6.1	6.3	11.3	4.3	8.0	11.3	18.5	25.6	19.1	22.7	20.8	26.8
16	47.5	-2.3	14.9	10.7	16.5	19.6	9.8	16.8	14.2	30.7	15.7	17.6	12.3	11.6	28.7
17	47.0	6.0	17.4	.....	.....	23.9	21.4	23.7	19.5	25.9	22.6	15.2	20.3	21.6	23.3
18	51.5	-4.8	19.2	13.2	20.5	20.3	16.0	18.3	6.3	20.2	25.7	16.5	22.0	19.0	26.5
19	48.0	-11.0	1.1	4.6	5.8	17.3	16.5	13.5	16.0	18.7	22.5	18.8	17.3	14.3	21.3
20	51.5	-7.5	3.6	2.5	5.0	3.4	2.3	5.2	4.5	8.2	15.7	21.4	11.7	7.7	27.9
21	52.5	5.2	10.1	4.6	9.7	10.1	5.5	10.0	6.2	13.0	10.4	6.7	12.3	12.5	22.1
22	52.0	7.0	18.0	14.5	19.8	15.7	13.8	12.5	10.8	18.8	16.4	11.4	17.0	17.5	23.3
23	43.5	1.3	22.8	22.5	24.8	23.7	31.0	24.5	26.0	25.9	22.3	14.0	21.0	22.1	24.0
24	46.0	9.8	16.4	8.6	.....	20.2	16.8	22.5	23.3	26.9	26.7	23.6	23.7	26.8	26.3
25	48.0	11.5	28.4	29.7	32.0	28.5	28.3	23.5	25.0	28.9	28.8	27.7	30.0	32.1	32.1
26	50.5	7.0	26.2	22.4	26.5	31.2	37.2	33.2	36.0	34.2	32.1	32.1	28.7	32.8	34.1
27	53.0	6.5	22.1	18.6	19.5	33.3	29.0	31.2	31.0	37.9	32.6	30.6	33.7	34.6	33.8
28	52.0	11.5	19.1	24.1	24.5	29.9	27.8	26.7	28.5	33.0	35.1	32.6	33.7	35.4	33.7
29	55.5	10.5	24.6	23.8	20.0	28.1	29.6	27.8	27.5	35.2	34.3	31.6	29.3	32.2	32.2
30	56.0	6.0	27.6	25.4	18.5	26.9	28.3	29.5	29.8	29.6	30.7	26.4	28.7	26.9	34.2
31	53.5	10.2	25.0	22.5	.....	30.3	28.5	25.7	28.8	26.4	26.0	25.8	24.0	22.7	32.8
	49.5	6.7	12.3	14.6	18.6	20.0	16.2	16.7	15.8	21.0	22.9	20.5	20.7	20.2	27.5

XII.—APRIL, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's, Newfoundland.
1	46.5	18.5	23.0	23.5	23.5	27.8	26.4	26.5	27.5	30.2	31.5	29.1	29.3	28.0	33.3
2	47.5	12.0	27.0	23.0	39.5	32.7	29.4	31.5	31.0	33.5	31.5	31.8	32.3	33.2	32.9
3	53.0	21.0	26.5	25.2	25.0	30.0	30.1	32.3	31.2	36.2	33.7	33.7	34.0	37.0	31.7
4	58.0	31.5	33.0	21.6	25.0	29.7	33.3	31.2	34.5	39.8	33.5	32.0	35.3	38.4	32.7
5	49.0	33.0	31.8	32.2	45.0	35.1	40.4	33.0	36.7	41.0	32.4	29.2	34.7	37.0	32.1
6	48.0	41.0	37.5	41.1	46.0	43.6	40.1	38.2	40.5	48.0	31.2	24.7	33.3	33.9	29.5
7	50.0	34.2	43.1	45.3	.....	39.6	45.0	38.0	44.2	42.2	34.6	32.2	31.7	37.8	27.3
8	45.0	29.0	39.4	45.7	44.8	45.1	43.4	41.0	42.5	44.4	35.6	35.7	37.7	40.8	34.3
9	42.7	28.5	46.9	49.2	48.0	55.4	47.5	46.5	44.5	46.5	38.4	39.6	38.3	41.6	38.3
10	44.0	27.7	33.0	31.9	31.8	36.7	40.8	37.5	42.0	40.4	42.4	41.6	36.3	40.7	40.5
11	43.7	25.2	36.2	30.7	35.0	41.5	34.1	34.2	37.0	40.7	40.2	39.7	38.0	40.6	41.5
12	41.5	25.0	39.4	37.7	45.3	41.8	39.8	43.7	38.5	40.0	38.4	36.0	37.3	39.7	41.5
13	47.5	21.3	32.9	33.9	36.8	43.3	40.0	49.0	43.5	46.1	37.2	34.9	35.3	39.3	39.0
14	52.5	22.7	32.1	28.7	.....	34.0	32.9	33.7	36.0	37.1	39.1	37.2	37.3	38.4	37.3
15	52.7	27.0	30.9	23.3	29.5	28.9	.....	32.0	35.8	38.3	36.5	33.5	38.3	39.7	33.8
16	56.3	31.0	34.5	30.7	30.0	33.5	33.3	33.0	35.3	39.5	36.4	34.9	37.0	36.8	34.7
17	57.7	38.3	57.5	32.2	36.3	37.9	39.4	36.5	40.3	44.8	35.0	31.4	35.3	39.3	31.6
18	60.3	17.0	39.5	31.6	39.5	40.4	41.6	44.5	44.2	48.1	40.7	31.9	39.0	41.6	32.5
19	55.0	31.3	33.4	32.9	35.5	46.8	44.2	45.2	48.0	52.7	40.2	39.9	40.0	43.3	39.8
20	53.0	13.8	39.3	45.3	47.5	50.0	48.0	46.0	46.0	47.0	46.1	34.6	42.7	46.0	36.0
21	54.0	25.0	27.1	42.6	.....	50.1	59.3	57.5	55.5	54.3	39.8	34.7	42.0	42.2	34.9
22	53.7	36.5	29.5	22.8	27.0	21.3	28.5	30.0	35.3	35.9	42.5	37.7	38.3	46.0	36.5
23	51.0	45.3	31.7	32.2	34.5	33.1	37.6	34.0	35.5	37.3	33.7	39.0	38.3	36.6	39.5
24	43.5	42.7	32.4	35.2	43.3	52.4	41.8	40.5	42.7	46.5	35.6	40.3	33.3	37.8	39.8
25	46.3	38.3	46.0	57.6	66.2	62.7	53.7	51.5	47.2	43.7	42.5	37.2	36.7	42.5	38.8
26	49.0	38.8	37.5	44.8	54.0	58.9	56.7	52.3	58.3	57.8	37.8	38.1	41.7	42.8	35.0
27	51.0	45.5	45.3	.....	45.7	48.3	45.2	49.0	48.0	51.8	41.8	36.8	41.7	43.3	36.6
28	49.0	43.5	44.2	37.3	.....	46.1	41.7	42.3	39.7	48.9	42.0	39.1	41.7	42.8	34.3
29	52.0	39.0	43.5	49.3	51.0	46.1	47.8	46.0	48.0	54.4	39.8	36.7	40.7	43.0	36.2
30	55.0	35.7	44.9	58.3	58.3	59.4	61.8	56.7	47.5	59.1	41.1	38.7	40.7	50.1	37.0
	50.8	30.8	36.3	35.7	39.0	42.1	41.6	40.4	41.2	44.2	37.9	35.4	37.3	40.0	35.6

XIII.—MAY, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N.B.	Fredericton.	St. John's, Newfoundland.
1	55.2	35.5	52.6	49.9	54.3	58.3	58.7	56.0	60.3	61.6	43.7	40.9	39.7	49.6	39.7
2	68.8	46.2	39.3	40.9	40.5	43.3	.....	49.2	55.7	55.7	46.1	43.7	44.0	51.9	42.8
3	54.7	45.5	35.3	35.3	35.8	38.3	46.4	44.2	49.5	51.6	49.4	50.5	44.7	47.6	50.7
4	45.3	56.0	41.5	34.6	35.0	40.1	44.1	42.0	48.3	54.0	44.4	46.0	43.7	48.4	47.8
5	51.5	43.0	47.6	44.6	.....	44.8	45.7	44.5	43.2	51.3	44.7	42.0	41.7	40.2	43.3
6	52.5	35.5	51.8	54.8	51.2	64.7	55.1	50.8	49.2	57.1	37.9	33.6	42.0	42.4	52.0
7	57.0	35.5	52.4	60.0	56.2	69.6	62.3	54.7	62.5	68.6	38.8	35.4	43.3	45.5	45.8
8	55.5	35.3	42.0	52.5	54.5	50.3	55.2	52.5	57.5	62.5	49.8	41.4	43.0	51.3	40.2
9	57.5	36.5	42.1	51.0	52.5	63.4	64.8	61.5	69.8	66.3	43.6	38.5	45.3	43.6	34.7
10	53.7	41.0	47.0	51.3	51.0	51.8	55.6	52.0	54.8	55.5	43.7	35.5	42.7	43.6	31.0
11	63.8	44.7	47.0	66.7	51.5	61.3	64.2	62.7	65.0	61.0	40.3	45.1	42.0	47.5	35.7
12	62.0	50.3	42.0	45.5	.....	46.9	53.4	47.5	56.8	61.7	47.1	42.9	42.3	49.6	37.4
13	56.5	55.7	43.4	49.8	38.5	46.3	49.4	44.0	47.3	54.9	51.0	47.8	51.0	52.0	33.9
14	62.0	56.2	42.0	45.6	43.5	51.2	52.0	51.7	53.0	57.0	41.9	35.3	47.0	49.8	34.5
15	64.5	56.3	52.4	46.4	47.3	53.4	54.2	54.5	55.5	55.8	46.8	41.6	46.7	49.5	39.5
16	67.7	59.2	51.4	49.2	45.8	52.4	51.0	49.5	52.0	57.7	41.9	40.3	33.0	42.0	43.4
17	68.3	46.7	52.0	51.3	51.0	52.3	55.6	54.0	53.0	60.3	37.8	35.1	42.0	43.6	33.4
18	71.0	44.7	53.3	61.7	59.8	54.5	62.4	59.2	56.0	62.7	45.7	41.1	43.3	53.1	42.1
19	64.5	51.0	59.9	52.8	.....	54.5	60.2	51.8	59.0	61.9	52.0	48.2	48.0	60.2	47.2
20	68.5	47.5	43.8	52.7	52.5	53.3	60.5	52.3	60.2	60.1	47.2	41.6	51.3	49.9	51.0
21	71.0	49.0	50.1	49.4	51.5	52.4	58.4	54.0	.....	68.4	47.5	44.9	47.7	51.3	45.8
22	72.5	48.7	54.0	53.6	50.8	59.6	62.5	60.5	63.5	65.5	49.0	43.9	47.7	55.0	41.8
23	73.7	51.2	58.0	52.1	61.0	57.0	58.5	55.5	57.0	55.0	41.6	43.1	48.3	51.6	36.3
24	63.8	53.2	49.1	57.2	57.7	56.6	59.9	56.5	57.3	56.6	50.4	41.7	51.7	56.0	43.0
25	59.0	57.0	47.5	44.5	59.3	55.0	55.5	52.7	58.0	56.3	50.1	46.5	50.0	49.4	42.7
26	57.5	51.5	51.1	55.8	.....	57.5	60.4	55.3	57.5	61.3	58.0	59.7	51.7	59.9	49.0
27	60.7	52.5	51.1	56.4	51.5	58.6	64.0	53.2	56.5	57.8	50.3	51.4	52.7	55.3	53.3
28	61.0	57.5	50.0	45.9	47.0	48.3	56.2	48.5	53.0	55.6	46.8	48.7	43.7	56.2	45.8
29	63.0	57.0	55.0	50.6	46.0	52.7	.....	47.0	51.0	52.2	45.5	53.0	45.3	54.2	63.3
30	69.0	61.0	52.2	55.7	49.0	51.7	58.1	54.0	55.5	56.8	52.1	54.6	50.0	58.7	56.8
31	72.3	62.7	57.4	56.2	53.8	55.4	61.1	69.5	.....	59.6	46.7	47.2	48.0	51.0	59.2
	62.4	49.3	48.7	51.2	49.8	53.5	53.1	52.7	54.6	58.8	46.2	43.5	46.1	50.1	43.8

XIV.—JUNE, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N. B.	Fredericton.	St. John's, Newfoundland.
1	70.5	62.7	54.8	50.1	52.0	53.9	49.3	46.5	50.0	53.9	49.7	45.2	47.3	53.7	52.7
2	72.0	59.3	58.9	54.4	.....	54.8	54.9	53.5	53.3	59.0	42.9	48.9	44.7	42.7	52.3
3	72.0	57.7	58.2	61.1	61.2	57.1	61.7	56.8	56.2	59.4	45.0	43.5	43.0	45.2	49.2
4	71.2	65.5	56.9	54.0	51.0	53.1	53.0	51.7	53.0	54.1	47.7	41.3	46.0	54.2	45.6
5	71.5	58.8	62.0	56.0	58.0	61.3	63.6	57.5	56.5	63.9	47.8	52.5	50.3	56.0	55.5
6	63.0	65.0	56.9	63.2	64.5	63.7	70.2	64.2	64.2	68.0	50.4	45.4	57.7	55.1	53.7
7	65.5	67.0	54.5	58.4	57.8	61.1	65.6	62.8	64.8	69.0	49.3	42.1	52.0	51.4	48.0
8	72.3	56.5	59.6	56.1	58.8	62.6	63.6	60.2	61.8	62.1	54.4	51.2	53.0	59.2	55.1
9	70.0	65.5	58.3	61.6	.....	66.8	68.8	63.0	65.7	62.9	57.0	43.1	53.0	64.5	57.2
10	64.3	58.5	60.3	62.2	63.8	63.2	63.5	58.5	64.5	63.5	57.8	49.6	52.0	57.8	49.2
11	66.5	52.7	63.2	67.4	69.5	67.9	73.4	63.8	69.5	70.2	59.1	45.8	53.0	61.3	42.7
12	69.7	56.0	59.6	58.1	61.0	68.6	69.2	61.3	67.5	70.0	58.9	44.8	54.3	58.6	42.1
13	72.8	49.3	60.2	57.5	57.0	58.0	63.9	56.5	60.0	61.8	57.2	45.5	60.0	64.5	42.6
14	75.5	53.0	56.5	56.2	55.7	58.8	65.1	57.7	67.0	64.0	55.0	48.8	53.3	59.0	42.0
15	76.7	62.7	60.3	53.5	57.2	58.3	.....	58.2	63.5	65.1	61.2	54.9	54.3	66.6	44.2
16	61.5	66.5	62.3	59.8	.....	59.8	67.4	62.5	64.2	66.8	60.9	59.2	58.3	64.7	53.7
17	63.0	74.5	60.1	63.4	64.5	64.2	71.7	63.5	65.7	70.4	56.3	55.0	61.7	69.3	56.3
18	68.0	68.0	68.5	71.0	.....	66.0	71.8	61.8	68.5	70.5	59.1	58.2	64.3	71.2	47.8
19	61.0	61.0	68.7	74.4	.....	73.0	73.2	69.0	70.0	70.2	59.2	52.2	58.7	70.5	44.3
20	71.5	56.5	73.6	81.1	.....	78.1	83.6	74.0	78.2	76.2	59.3	57.8	65.0	69.7	52.5
21	73.5	61.8	64.4	65.9	.....	73.5	79.7	73.0	80.0	81.4	62.1	64.3	51.3	72.7	57.8
22	72.3	69.7	65.0	64.8	.....	65.0	70.9	69.2	69.0	74.7	63.4	65.0	54.0	72.1	61.2
23	65.0	70.5	65.8	64.4	.....	64.7	72.7	69.5	71.0	74.4	61.0	59.8	58.0	72.0	53.3
24	65.4	70.0	66.3	70.6	65.0	68.0	74.3	67.8	71.3	73.2	59.0	65.9	61.0	71.9	63.3
25	68.2	64.5	71.3	73.5	66.2	67.2	73.1	65.7	70.7	72.7	67.4	62.1	54.7	74.2	59.8
26	64.6	68.8	70.0	71.4	70.0	68.7	75.5	72.3	70.2	73.3	56.7	59.9	57.7	63.2	46.5
27	64.6	73.8	70.6	73.1	72.5	70.7	76.1	69.7	73.0	76.4	57.7	57.4	53.0	68.6	57.3
28	62.3	70.0	74.5	73.7	76.0	73.2	78.1	74.0	76.8	78.5	61.4	59.0	56.0	65.6	61.2
29	62.5	65.5	74.2	72.3	71.8	77.1	81.3	74.5	79.7	81.3	61.5	62.3	57.3	70.7	64.7
30	65.2	65.5	77.1	78.9	.....	78.6	80.3	75.2	79.5	89.7	72.0	65.6	62.7	79.9	67.7
	68.2	63.3	63.8	65.3	62.6	65.3	69.5	64.6	67.0	67.2	57.1	53.3	54.9	63.5	52.6

XV.—JULY, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravenhurst.	Stayner.	Woodstock.	Fitzroy Harbor.	Brockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N. E.	Fredericton.	St. John's, New- foundland.
1	74.7	53.4	74.9	78.4	77.8	.....	82.0	75.2	78.3	75.3	72.9	65.5	61.0	68.8	66.3
2	79.0	55.8	76.4	80.0	79.5	.....	79.3	74.5	71.5	70.3	60.6	53.4	62.7	65.2	51.5
3	81.0	57.0	70.0	74.4	76.8	.....	80.5	74.7	78.0	77.2	60.1	54.6	56.0	63.4	59.2
4	81.0	65.7	60.7	67.0	64.5	.....	78.3	70.3	74.8	76.4	67.2	62.8	55.7	70.2	53.5
5	73.0	66.9	65.0	60.8	60.0	.....	70.5	68.2	72.5	73.9	68.1	65.8	55.7	73.4	55.3
6	76.2	72.1	68.9	66.0	62.5	.....	72.8	68.7	70.5	74.5	68.0	67.1	62.0	73.9	67.8
7	75.5	75.9	68.0	69.9	.....	74.3	70.0	70.0	70.0	74.9	73.1	68.1	66.0	73.8	59.8
8	80.7	73.3	70.5	70.2	66.2	.....	73.7	69.8	70.0	76.1	68.9	62.8	64.3	69.5	63.5
9	79.0	79.8	74.7	78.5	73.8	.....	80.0	73.5	79.5	78.1	67.2	62.1	60.0	72.1	64.5
10	82.2	76.6	72.8	66.4	70.5	.....	73.8	72.0	74.3	76.0	67.4	65.5	55.0	73.9	68.8
11	83.5	72.2	73.5	70.0	69.2	.....	72.5	72.3	70.5	76.5	70.3	66.0	63.7	74.0	64.2
12	80.0	71.7	72.3	69.7	71.5	.....	69.7	71.0	70.5	76.2	71.7	63.7	62.0	70.7	51.8
13	75.2	79.1	62.0	65.6	63.7	.....	66.1	63.5	63.8	66.2	65.7	59.3	65.0	61.0	58.3
14	72.5	76.4	70.1	70.6	.....	74.8	71.0	70.3	75.0	64.3	59.8	57.7	67.0	59.6	.....
15	77.5	64.0	77.6	81.0	75.2	.....	80.0	76.7	74.5	81.2	65.7	65.3	58.3	71.0	63.3
16	79.0	61.7	73.3	77.5	73.2	.....	80.4	76.5	77.5	82.2	63.3	59.1	63.7	70.8	58.0
17	78.0	53.4	73.0	75.9	72.0	.....	80.0	77.8	79.5	79.8	69.8	58.7	68.7	66.8	56.3
18	80.7	59.6	66.6	70.3	65.7	.....	75.5	71.3	70.0	71.8	61.9	61.4	66.0	70.1	51.2
19	74.7	64.6	60.2	62.7	61.0	.....	70.6	69.0	67.0	73.2	62.3	59.1	60.7	70.0	60.0
20	72.8	63.2	67.4	69.9	63.0	.....	71.7	67.3	67.0	71.4	65.5	61.3	66.3	67.7	56.8
21	65.5	67.6	67.1	63.9	.....	70.0	67.3	63.2	78.0	66.7	64.3	59.3	70.0	57.0	.....
22	70.3	64.2	65.5	61.8	61.5	.....	61.9	65.0	64.7	65.2	64.7	64.6	57.0	62.0	61.3
23	72.2	64.0	62.7	60.8	63.0	.....	65.6	66.0	61.0	68.7	65.1	60.9	61.7	62.6	64.3
24	79.8	66.3	66.3	62.9	69.5	.....	67.8	66.5	63.5	69.0	69.5	63.7	53.3	61.2	62.5
25	73.5	67.6	67.8	70.3	67.2	.....	69.9	63.0	67.3	68.6	63.6	58.4	62.0	63.1	57.8
26	73.5	75.1	64.2	65.6	63.5	.....	64.6	65.5	62.8	93.1	62.6	60.8	58.0	65.0	57.8
27	74.0	76.6	61.9	62.9	63.2	.....	61.9	62.0	59.5	63.7	59.4	54.7	51.7	57.7	57.5
28	69.2	71.6	71.0	70.1	.....	69.2	70.3	62.2	61.0	62.8	57.6	62.0	61.6	53.3	.....
29	65.6	71.4	64.2	67.5	65.3	.....	64.7	61.0	60.5	62.2	57.9	60.2	55.7	62.1	58.6
30	71.0	66.0	63.3	61.6	63.0	.....	65.6	63.0	63.8	63.9	58.7	61.5	57.0	53.5	58.8
31	78.0	60.5	61.1	64.1	64.3	.....	65.0	61.0	60.0	66.6	59.9	61.4	60.0	61.9	57.8
	75.8	67.6	68.1	69.6	67.8	70.9	72.0	70.0	69.2	71.7	64.8	61.7	69.5	67.0	59.3

XVI.—AUGUST, 1872.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

Day.	Spence's Bridge.	Winnipeg.	Little Current.	Gravelhurst.	Slayner.	Woodstock.	Fitzroy Harbor.	Rockville.	Huntingdon.	Montreal.	Halifax.	Sydney.	St. John, N. B.	Fredericton.	St. John's, New foundland.
1	81.0	62.7	62.5	63.5	61.0	.....	65.7	63.5	69.8	66.8	62.9	61.3	63.0	63.9	63.5
2	81.0	68.4	59.5	57.5	59.0	.....	61.3	63.5	61.5	66.3	62.0	59.8	57.7	63.8	59.7
3	81.0	66.8	66.5	61.4	61.0	.....	64.3	61.7	62.0	62.0	53.9	56.4	58.0	58.0	56.5
4	76.0	63.9	67.8	61.4	.....	.....	66.2	68.0	66.0	68.6	59.5	55.5	69.0	60.2	53.3
5	72.5	69.5	65.5	67.7	65.0	.....	70.1	68.8	70.0	74.5	61.9	56.2	62.7	65.6	52.0
6	64.5	64.7	69.6	68.6	70.5	.....	73.7	71.5	74.2	76.1	69.4	57.2	58.3	65.0	49.7
7	68.7	65.0	71.4	73.3	77.8	.....	77.4	73.5	75.8	76.3	65.7	60.3	57.0	63.3	51.8
8	74.3	64.9	75.4	74.1	78.0	.....	89.9	76.0	77.0	79.5	66.0	63.5	55.7	72.4	58.0
9	74.7	62.9	74.8	79.6	76.7	.....	81.7	78.3	80.0	81.0	74.3	67.2	58.7	78.7	69.2
10	78.6	63.0	67.0	69.0	69.5	.....	75.2	71.5	72.0	74.1	63.0	73.5	57.7	75.5	70.5
11	80.0	64.6	63.1	67.8	.....	.....	69.3	67.0	66.5	72.2	66.4	65.7	61.0	69.8	65.0
12	82.5	61.9	68.1	69.6	67.5	.....	73.6	71.2	71.5	73.9	65.1	62.5	63.0	69.3	.....
13	83.1	67.2	63.8	72.3	67.5	.....	75.8	71.3	73.5	76.6	63.1	63.8	61.7	66.4	65.2
14	82.0	63.5	68.7	71.0	70.5	.....	77.0	70.5	72.3	73.0	65.6	62.5	69.7	66.7	61.0
15	72.7	72.9	61.5	67.4	65.3	.....	71.4	73.2	73.5	73.5	61.5	57.7	61.3	63.2	53.2
16	79.3	62.4	66.0	70.3	65.0	.....	69.7	68.7	71.8	73.9	66.8	61.5	63.7	66.9	52.2
17	72.2	62.7	73.2	71.2	77.5	.....	75.9	69.5	71.5	72.4	62.4	60.0	60.7	61.5	61.8
18	68.5	67.2	66.1	69.7	.....	.....	71.8	70.5	70.5	75.8	66.3	63.2	63.3	65.1	74.2
19	69.0	75.4	65.6	69.0	71.7	.....	71.0	68.0	70.5	74.3	61.2	63.5	53.0	68.7	51.3
20	65.7	80.3	69.9	72.4	75.2	.....	76.1	70.7	71.9	76.2	63.4	59.6	63.0	65.5	51.0
21	66.5	67.6	73.9	76.9	81.2	.....	78.0	75.0	76.0	79.2	62.8	60.7	56.3	67.9	57.7
22	71.0	71.1	72.9	72.5	75.3	.....	76.7	76.2	72.5	79.1	63.7	63.0	58.0	65.6	60.5
23	69.5	72.6	65.5	64.4	65.5	.....	71.0	70.3	67.3	73.9	70.0	61.2	67.0	69.6	63.1
24	67.0	72.5	71.8	67.6	68.5	.....	74.6	72.2	70.5	75.2	64.4	60.2	61.3	65.5	64.5
25	67.0	65.4	68.0	68.2	.....	.....	73.1	70.5	72.0	76.5	68.1	60.6	60.3	68.9	62.0
26	69.7	63.7	70.1	68.8	68.0	.....	74.0	73.5	71.8	76.1	64.5	55.9	63.0	65.6	56.7
27	72.1	60.5	68.6	69.0	64.0	.....	66.4	62.8	65.3	70.1	64.1	58.1	56.7	59.7	59.8
28	71.7	69.0	65.2	61.9	67.5	.....	63.0	59.8	61.8	63.3	60.5	59.5	62.0	62.9	51.2
29	75.6	78.6	61.0	61.6	61.5	.....	61.6	65.2	61.0	69.0	69.8	58.5	57.7	59.8	53.5
30	73.8	63.2	69.8	48.9	54.0	.....	51.8	52.2	54.3	55.9	59.1	55.6	55.7	54.5	56.2
31	71.6	70.7	64.1	55.5	61.0	.....	59.2	55.3	56.0	57.0	62.2	60.0	56.0	58.0	54.8
	73.3	66.1	67.6	68.1	63.6	79.5	71.2	63.1	69.2	72.5	64.1	60.8	60.2	65.4	57.9

XVII.—PERCENTAGE of Cloud for each Month and Year at the several Stations in the Dominion of Canada, September 1871, to August, 1872, inclusive.

		1871.				1872.							
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
Ontario.													
W. & S. W. District.	Windsor	47	32	68	76	77	52	48	60	55	47	49	49
	London	41	30	72	84	77	58	59	56	57	45	44	47
	Woodstock	41	30	72	84	71	53	58	47	57	48	...	...
	Simcoe	64	75	87	87	82	59	51	50	46	47	45	48
	Hamilton	42	61	69	75	75	51	56	56	54	49	46	53
Mean of District		49	54	74	81	76	55	54	54	54	75	46	49
N. and N. W. District.	Little Current	45	68	65	75	61	41	40	49	51	31	47	43
	Point Clark	54	62	80	90	82	46	60	49	51	42	50	48
	Stratford	49	58	71	85	79	48	49	48	50	36	46	49
	Kincardine	54	56	75	92	81	41	46	39	37	21	29	29
	Goderich	48	57	85	93	82	52	56	48	56	48	41	47
	Stayner	39	31	64	78	49	39	30	39	27	33	20	...
	Gravenhurst	36	58	65	77	66	45	45	49	56	41	45	51
	Barrie	45	58	75	87	82	58	49	48	55	42	45	47
	North Gwillimbury	42	67	79	89	73	53	52	50	52	44	47	57
Mean of District		43	57	75	85	75	47	48	46	50	37	43	45
Toronto*		56	68	77	81	82	52	54	54	54	51	50	56
E. and N. E. District.	Cornwall	39	61	68	67	73	46	49	54	67	61	49	62
	Peterborough	41	64	68	74	73	56	56	64	65	68	60	58
	Belleville	43	64	60	69	70	47	35	45	55	40	40	48
	Brockville	...	...	70	79	72	48	59	52	55	49	41	51
	Fitzroy Harbor	42	63	...	...	58	42	43	46	56	44	42	46
	Pembroke	54	76	77	77	71	...	60	60	71	60	50	60
Ottawa		...	...	...	...	...	...	...	61	68	61	55	58
Mean of District		44	66	69	73	70	48	50	55	62	64	48	55
Mean for Ontario		48	61	74	80	76	51	51	52	54	57	47	51
Quebec.	Huntingdon	43	49	64	58	55	31	44	36	52	49	39	44
	Montreal	34	52	56	60	49	28	41	39	39	38	32	42
	Richmond	...	72	73	78	71	48	60	48	58	54	48	45
	Quebec	47	70	62	68	64	57	55	61	63	49	56	50
Mean for Quebec		41	61	64	66	60	41	50	46	53	47	44	43
New Brunswick.	St. John	54	65	58	52	55	49	55	62	74	73	56	71
	Basin River	47	65	58	53	55	50	54	56	74	59	53	54
	Fredericton	...	...	60	57	50	54	57	75	62	57	57	57
	Bathurst	...	...	...	...	...	...	...	...	...	61	52	...
Mean for New Brunswick		50	65	58	55	56	50	54	58	74	65	57	59

* Toronto has been assumed to represent the Central District of Ontario.

XVII.—PERCENTAGE of Cloud for each Month and Year at the several Stations in the Dominion of Canada, September, 1871, to August, 1872, inclusive.—Continued.

		1871.				1872.									
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	
Nova Scotia.—Continued.															
Nova Scotia.	Halifax	48	52	70	67	60	58	58	58	75	72	51	66	61	
	Glace Bay	57	72	76	74	73	57	67	68	80	71	55	63	68	
	Pictou	54	63	84	70	68	65	69	67	83	71	59	66	68	
	Sydney	53	72	75	69	66	56	59	67	75	70	50	60	64	
	Windsor	38	59	71	75	64	64	59	54	71	66	48	63	61	
	Yarmouth	54	64	76	82	81	62	70	57	.....	.....	.....	.....	.....	
	Wolfville	46	62	68	75	66	64	64	60	70	65	52	.....	.....	
	Liverpool	45	53	60	67	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Digby	39	47	71	76	69	51	62	49	60	54	40	53	56		
Mean for Nova Scotia		48	60	72	73	68	60	64	60	73	67	51	62	63	
Manitoba.															
Winnipeg .....		.....	61	55	48	46	51	47	59	65	43	43	31	.....	
St. John's College .....		.....	.....	.....	.....	.....	.....	50	61	61	49	...	.....	.....	
British Columbia.															
Spence's Bridge .....		.....	.....	.....	.....	53	54	41	45	45	46	37	43	.....	
Newfoundland.															
St. John's		61	77	71	62	61	65	71	68	69	63	54	54	65	

XVIII.—RAIN-FALL for each Month and for the Year, at the several Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.

		1871.				1872.									
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	
Ontario.															
W. and S. W. District.	Windsor.....	0.94	0.71	1.89	0.72	2.34	0.51	0.97	1.45	4.03	1.99	1.85	2.07	19.47	
	Stoney Point.....	1.26	0.62	1.61											
	Wyoming.....	1.25	0.90												
	Glencoe.....	1.73	0.19	1.35	0.96	0.00	0.86	0.45	1.98	2.96	2.12	2.29			
	London.....					R.	Imperfect	0.87	3.81	2.20	0.95	2.35			
	Woodstock.....	1.76	1.04	1.24	0.98	0.25	1.19	0.47	1.47	2.78	2.02	0.78	2.36	16.34	
	Plattsville.....	1.50	0.37	1.45	0.42	0.49	0.50	0.00	1.73	1.46	2.14	0.57	2.96	13.59	
	Ingersoll.....				0.68				1.26	3.06	2.64	0.92	1.57		
	Simcoe.....	2.08	1.31	2.37	1.46	1.80	0.81	0.97	0.99	2.95	2.15	0.96	4.99	22.84	
	Widder.....	2.97	1.73	2.07	1.50	0.00	0.60	0.00	2.57						
	Ailsa Craig.....	1.99	0.92	1.90	0.93						3.25	1.69	3.59		
	Dundas.....	1.55	1.24	2.70	1.45	0.02	0.70	0.30	1.15	1.99	2.00	3.76	2.44	19.30	
	Hamilton.....	1.37	0.62	3.06	1.28	0.20	R.	R.	0.96	2.03	1.95	4.58	1.71	17.76	
Mean of District.....		1.67	0.88	1.96	1.04	0.57	0.65	0.40	1.44	2.79	2.25	1.83	2.69	18.17	
N. and N. W. District.	Little Current.....	4.01	3.45	1.17	Incl. in Feb.	3.71	0.00	0.99	3.00	1.59	3.13	1.74	22.78		
	Point Clark.....	2.89	3.88	2.84	1.21	0.80	0.95	0.94	3.51	3.87	2.93	3.16	4.59	31.57	
	Seaforth.....	2.00	1.30	1.00	0.00	0.00	0.65								
	Parkhill.....	2.31	0.82	1.72	0.35	0.00	0.28	0.42	0.14	3.89	1.94	1.38	3.25	16.54	
	Lucan.....	1.75	0.82	2.00	1.02	0.00	1.10	1.20	1.82	2.36	2.10	1.46	2.72	18.35	
	Stratford.....	1.73	1.35	1.22	0.60	0.09	0.79	0.33	2.18	2.91	1.98	1.67	2.79	17.64	
	Kincardine.....	3.02	1.59	2.79	R.	R.	R.	R.	1.07	3.00	2.97	3.15	2.07	19.66	
	Goderich.....	2.62	0.63	1.67	0.50	0.00	0.68	0.08	1.50	2.74	2.28	1.77	2.17	16.64	
	Orillia.....	1.95	1.78	2.14	R.	R.	R.	R.	1.0	1.38	9.37	7.40	2.13	20.5	
	Collingwood.....	2.29	0.63	0.78					0.60	2.87	2.16	2.26	2.32		
	Stayner.....	2.19	0.98	0.98	R.		0.00	0.00	0.87	3.80	2.30	4.86	1.18	17.16	
	Gravenhurst.....	1.75	2.76	2.51	R.	0.00	0.82	0.00	1.99	2.75	2.47	3.98	3.10	22.13	
	Barrie.....	2.10	0.88	1.03	R.	0.00	R.	0.00	1.23	3.53	2.23	3.86	2.37	17.23	
	N. Gwillimbury.....	2.02	1.36	1.90	0.50	R.	0.04	0.00	0.56	2.36	2.70	1.86	2.20	15.50	
	Georgina.....	2.07	1.07	1.99	0.62	R.	0.33	0.00	0.61	2.13	2.56	1.86	0.97	14.21	
Mean of District.....		2.31	1.55	1.72	0.37	0.07	0.55	0.23	1.29	3.08	2.43	2.79	2.35	18.74	
Central District.	Newmarket.....	2.47	1.14	1.25	0.89				1.31	3.07	2.23	3.90	2.87		
	Thornhill.....	2.05	0.60	1.91	0.75	0.00									
	Brampton.....	1.46	0.80	1.72	0.70	0.00	0.90	0.85	0.80	2.28	1.93	0.88	1.35	13.67	
	Toronto.....	1.29	1.19	2.65	0.94	0.22	0.35	0.70	0.91	1.93	3.15	2.30	2.40	18.03	
	Markham.....	1.69	0.77	2.76	R.	R.	0.53	0.50	1.25	3.22	2.31	2.77	2.10	17.90	
	Springfield.....					0.10				0.99	2.66	1.76	0.85	3.38	
	Niagara.....	1.34	0.65	3.14	0.16	0.65	0.17	0.44	1.14	0.81	3.73	1.08	1.61	14.92	
Mean of District.....		1.72	0.86	2.24	0.57	0.16	0.49	0.62	1.07	2.23	2.52	1.96	2.29	16.73	

XVIII.—RAIN-FALL for each Month and for the Year at the several Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.—*Continued.*

		1871.					1872.								
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	
Ontario.—Continued.															
N.E. and E. District.	Oshawa								0.51	2.31	2.32		0.43		
	Cornwall	0.51	0.48	0.48	0.13	0.00	0.04	0.02	0.46	2.20	2.41	4.06	2.99	13.78	
	Peterborough	2.39	1.49	2.58	0.73	R.	2.96	0.07	0.31	3.53	2.01	1.62	1.91	19.60	
	Belleville	1.40	1.77	2.99	0.73	0.00	0.75	0.00	0.96	2.99	2.54	1.80	1.68	17.61	
	Brockville			1.21	0.40	0.70	0.74	R.	0.45	3.55	2.34	4.39	4.50		
	Fitzroy Harbor	1.26	2.13	1.71	0.31	R.	0.15	R.	0.42	2.75	3.62	2.64	3.29	18.28	
	Pembroke	1.41	1.35	2.46	0.45	0.00	0.00	0.00	0.00	4.24	3.61	5.29	3.60	22.41	
	Ottawa								0.77	2.49	2.18	2.69	3.08		
Mean of District		1.39	1.44	1.90	0.46	0.12	0.77	0.01	0.49	3.00	2.63	3.21	2.69	18.11	
Mean for Ontario		1.77	1.18	1.96	0.61	0.23	0.62	0.31	1.07	2.78	2.46	2.45	2.51	17.95	
Quebec.															
Quebec		0.59	6.01	0.68	R.	0.00	R.	0.00	0.87	1.76	1.75	3.64	1.73	17.03	
Huntingdon		1.34	3.17	2.19	1.33	0.00	R.	R.	3.50	2.52	2.11	4.21	4.19	24.56	
Montreal		1.25	3.01	1.67	0.41	0.58	0.09	0.10	0.89	1.87	2.25	3.43	3.32	18.57	
Richmond			4.41	0.20	0.00	0.00	R.	0.00	0.99	2.81	2.83	7.05	7.37		
Danville			2.39	0.64	0.90	R.	0.01	0.00	1.01	3.42	5.90	5.06	7.32		
Murray Bay		3.30	4.16	0.40	0.20	0.00	0.00	0.00	1.23	3.25	1.37	3.94	3.74	21.59	
Carleton			2.57	0.68					0.80	4.21	3.41	3.89	6.08		
Chicoutimi		3.10	3.81							2.30					
Charlebourg		2.34	6.09							2.60	0.98	3.29	5.48		
River du Loup		2.64	4.67							4.55	2.50				
Lotbinière		2.01	5.04	1.02						1.97	1.67				
Pointe aux Tremble											1.12	3.13	4.30		
Levis					0.44	0.00	0.00	R.	1.16	2.55	2.64	4.75	3.93		
Cape Rozier		2.18	0.58	0.00	0.35	0.00	R.	0.00	3.38	1.53	3.15	0.86	1.87	13.90	
Mean for Quebec		2.08	3.83	0.83	0.45	0.07	0.01	0.01	1.50	2.72	2.44	3.93	4.48	22.35	
Nova Scotia.															
W. & S.W.	Shelburne					2.02	2.67	1.91	4.02	5.95	3.74	2.38	5.23		
	Yarmouth	1.56	4.75	4.36	2.04	1.94	1.99	1.10	2.82	6.72	4.00	2.77			
	Liverpool	4.65	4.77	4.92	2.56										
	Malone Bay					1.61	1.51	0.92	2.67	3.47	4.54				
	Digby						0.72	R.	1.98	4.38		2.78	8.96		
Mean of District		3.11	4.77	4.64	2.30	1.86	1.72	0.98	2.87	5.13	4.09	2.64	7.09	41.20	
Central	Halifax	4.81	4.49	3.21	1.88	2.58	2.40	0.76	2.77	4.44	4.23	2.88	6.82	41.27	
	Windsor	4.04	3.77	2.90	3.44	2.19	1.41	0.26	1.83	3.98	3.22	2.10	4.37	33.51	
	Truro					2.46	1.91	0.57	2.42	4.97	3.02	4.40	6.71		
	Pictou	4.41	3.67	2.06	1.88	1.43	0.99	0.34	1.27	5.61	3.56	4.22	5.23	34.67	
	King's Coll. Windsor	4.00	3.49	2.06					2.04	3.74					
	Seaforth	3.27	3.34	2.69	2.52	2.11	1.96	0.85	3.49	4.49	4.10	3.71	7.63	40.16	
	Beaver Bank	4.86	4.41	3.99	2.32	1.32	1.37	1.23	2.89	2.87	6.05	4.30	5.55	41.16	
	Wolfville	4.15	3.68	2.50	2.18	1.42	1.20	Imp.	1.59	3.92	2.63	1.94			
Mean of District		4.22	3.84	2.77	2.37	1.93	1.61	0.67	2.29	4.25	3.83	3.36	6.05	37.19	

XVIII.—RAIN-FALL for each Month and for the Year, at the several Stations in the Dominion of Canada, from September, 1871, to August, 1872, inclusive.—*Continued.*

	1871.							1872.					
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
<i>Nova Scotia.—Continued.</i>													
E. and N. (Guysborough....)	4.77	2.44	4.35	1.59	3.03	2.76	1.19	2.39	6.31	5.77	4.43	4.18	43.01
(Sydney.....)	4.40	4.11	4.75	1.72	3.45	2.75	1.16	2.63	5.24	3.81	2.77	6.37	43.16
(Glance Bay.....)	4.80	4.32	3.27	2.84	5.82	3.51	1.37	3.19	7.45	4.06	4.92	7.26	52.81
(Cape North.....)	3.24	3.27	2.67	0.70	0.45	0.97	0.24	1.36	5.81	3.23	4.24	5.90	32.68
Mean of District.....	4.30	3.49	3.76	1.71	3.19	2.50	0.99	2.54	6.20	4.22	4.09	5.93	42.92
Mean for Nova Scotia...	3.88	4.03	3.72	2.13	2.33	1.94	0.88	2.57	5.19	4.05	3.36	7.37	40.44
<i>New Brunswick.</i>													
St. John.....	3.25	5.96	2.81	2.50	3.16	0.59	1.40	2.51	8.20	2.93	4.48	6.76	44.55
Bas River.....	2.65	3.97	1.49	1.60	2.27	0.20	1.12	0.96	4.94	3.62	3.57	3.97	30.36
Petersville...	3.08	6.00	2.13	4.59	0.00	0.08	1.25	0.77	6.46	2.99	.....	.....	.....
Fredericton.....	.....	.....	1.81	1.65	0.97	1.42	1.21	7.22	3.97	3.77	3.82	.....	.....
Dorchester.....	.....	.....	3.95	1.55	3.55	0.70	1.23	1.74	4.29	5.92	4.99	4.67	.....
McAdam Junction.....	.....	.....	.....	.....	.....	.....	.....	.....	3.17	4.23	5.07	.....	.....
Bathurst.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.16	4.62	.....	.....
Mean for New Brunswick	2.99	5.31	3.46	2.41	2.13	0.51	1.28	1.44	6.22	3.77	4.03	4.82	38.37
<i>Manitoba.</i>													
Winnipeg.....	.....	0.95	0.15	0.00	0.00	0.00	0.25	1.50	3.80	1.62	1.85	7.25	.....
St. John College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Newfoundland.</i>													
St. John's.....	2.01	7.51	4.47	2.86	2.40	Included in snow.	.....	2.72	7.89	5.05	6.28	4.84	.....
Harbor Grace.....	.....	.....	2.00	?	2.36	4.85	0.26	1.34	5.04	3.53	5.00	4.61	.....
<i>Prince Edward's Island.</i>													
Charlottetown.....	.....	.....	.....	.....	.....	.....	.....	7.30	4.59	3.02	3.44	4.58	.....

XIX.—QUARTERLY RAIN FALL at the several Stations, the fall of Snow in each Month, and the total precipitation of Rain and melted Snow, from September, 1871, to August, 1872.

		Quarterly Depth of Rain in Inches.						Depth of Snow in Inches.										Total Precipitation.
		Sept. to Nov. 1871.	Dec. 1871 to Feb. 1872.	Mar. 1872 to May, 1872.	June to Aug., 1872.	Sept. 1871 to Aug. 1872.	1871.					1872.						
							Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	Total.			
W. and S. W. District.	Ontario.																	
	Windsor.....	3.54	3.57	6.45	5.91	19.47	0.0	8.0	26.5	16.5	9.3	16.1	3.0	0.0	79.4	27.41		
	Stoney Point.....	3.45					0.0	3.0										
	Wyoming.....																	
	Glencoe.....	3.27	1.82	5.39			0.0	3.0	10.5	13.5	6.0	4.0	3.0	0.0	40.0			
	Lo don.....				5.70				14.0	13.8	7.4		1.9	0.0				
	Woodstock.....	4.0	2.42	4.72	5.16	16.34	0.0	7.8	15.2	9.7	8.7	13.6	6.5	0.0	55.5	21.89		
	Plattsville.....	3.32	1.41	3.19	5.67	13.59	0.0	4.5	15.6	5.5	5.9	3.8	S.	0.0	35.3	17.12		
	Ingersoll.....				5.13									0.7	0.0			
	Simcoe.....	5.76	1.07	4.91	8.16	22.84	0.0	15.0	20.5	17.0	11.0	9.0	0.2	0.0	72.7	30.11		
	Widder.....	6.77	2.10				0.0	6.0	15.5	10.0	6.0			S.	0.0			
	Alba Craig.....	4.81			8.43		S.	10.0	17.0									
	Dundas.....	5.43	2.17	3.44	8.20	19.30	0.0	7.0	12.5	15.0	13.0	16.0	1.0	0.0	64.5	25.75		
Hamilton.....	5.05	1.48	2.99	8.29	17.76	S.	8.8	12.5	8.0	15.8	17.6	0.3	S.	63.0	24.06			
Mean of District.....		4.55	2.38	4.44	6.73	18.10	S.	7.3	16.0	12.1	9.2	11.4	1.1	S.	57.1	23.81		
N. and N. W. District.	Little Current.....	8.63	3.71	3.99	6.46	22.99	3.5	Included in rain.					27.7	6.6	0.0			
	Point Clark.....	9.61	2.96	8.32	10.68	31.57	0.0	17.6	38.0	23.5	11.5	15.9	3.0	0.0	109.6	42.33		
	Seaforth.....	4.30	0.11				0.0	17.0	22.9	3.2	11.0							
	Parkhill.....	4.85	2.63	4.45	6.61	16.54	0.0	9.5	13.5	1.3	7.0	2.8	3.0	0.0	37.1	20.25		
	Lucan.....	4.57	2.12	5.38	6.28	18.35	0.0	12.0	38.0	11.5	14.0	9.0	1.0	0.0	85.6	26.90		
	Stratford.....	4.30	1.48	5.42	6.44	17.61	S.	10.5	49.0	11.5	7.0	19.0	0.3	0.0	96.8	27.32		
	Kincardine.....	7.46	R. 1.07	8.19	19.66	0.0	11.8	50.0	47.0	21.0	33.4	4.5	0.0	0.0	167.7			
	Goderich.....	4.92	1.18	3.32	6.22	16.64	S.	0.6	38.0	13.5	7.5	9.5	1.0	0.0	70.1	23.65		
	Orillia.....	5.87	R. 4.90	9.75	20.52	S.	16.5	25.0	35.5	12.5	9.3	6.0	S.	.....	104.8	31.00		
	Collingwood.....	3.70			6.74		S.	30.0			8.8			11.0	0.0			
	Stayner.....	4.15	R. 4.67	8.34	17.16	0.0	27.0	68.0			0.0	20.0	16.0	0.0				
	Gravenhurst.....	7.02	0.82	4.74	9.55	22.13	0.5	10.5	43.3	27.8	10.0	16.6	2.5	S.	111.2	33.25		
	Barrie.....	4.01	R. 4.76	8.46	17.25	0.5	14.0	33.3	18.1	6.8	0.5	12.8	0.0	.....	86.2	25.85		
N. Gwillimbury.....	5.28	0.54	2.92	6.76	15.50	S.	13.5	30.0	16.0	12.0	13.0	7.0	S.	91.5	24.65			
Georgina.....	5.13	0.95	2.74	5.39	14.21	S.	16.4	31.2	8.8	5.0	11.5	14.0	0.0	86.9	22.90			
Mean of District.....		5.58	1.03	4.67	7.59	18.87	0.3	14.8	37.0	17.4	9.6	14.5	6.3	S.	99.9	28.86		
Cen'l District.	Newmarket.....	4.86			9.00		0.0	10.4	39.5					1.8	S.			
	Thornhill.....	4.50					0.0	6.0	22.0	8.0								
	Brampton.....	3.98	1.69	3.93	4.16	13.67	0.0	4.0	8.5	8.5	6.5	10.5	S.	0.0	38.0	17.47		
	Toronto.....	5.13	1.51	3.54	7.85	18.03	0.0	4.5	14.0	3.9	7.3	16.3	0.7	0.0	46.9	22.72		
	Markham.....	5.22	4.53	4.97	7.18	17.90	0.0	8.0	17.0	10.5	7.8	18.5	2.5	0.0	64.3	24.33		
	Springfield.....				5.99					10.0				0.1	0.0			
	Niagara.....	5.13	0.98	2.39	6.42	14.92	0.0	7.0	8.0	3.5	10.5	0.9	0.0	0.0	29.9	17.91		
Mean of District.....		4.81	2.16	3.71	6.77	17.45	0.0	6.7	18.2	7.4	8.0	11.6	1.3	S.	53.2	22.77		
N. E. & E. Dist.	Oshawa.....																	
	Cornwall.....	1.47	0.17	2.68	9.46	13.78	S.	0.8	4.2	1.3	19.0	18.0	9.9	0.0	53.2	19.10		
	Peterborough.....	6.46	3.69	3.91	5.54	19.60	S.	10.3	25.4		15.4	4.7	14.5	0.0				
	Belleville.....	6.94	1.48	3.95	6.02	17.61	0.0	8.1	29.4	19.9	24.0	22.1	4.8	0.0	108.3	28.44		
	Brockville.....		1.84	3.98	11.23		0.0	9.3	38.5	11.0	15.0	13.5	2.0	0.0	89.3			
	Fitzroy Harbor.....	5.10	0.46	3.17	9.55	18.28	S.	4.3	23.3	11.0	17.8	15.5	12.6	0.0	84.5	26.73		
	Pembroke.....	5.25	0.45	4.24	12.50	22.41	0.3	11.6	31.6	12.6		7.5	8.1	0.0				
	Ottawa.....				7.95								10.8	0.0				
Mean of District.....		5.04	1.35	3.66	8.89	18.94	0.1	7.4	25.4	11.2	18.2	13.5	7.8	0.0	83.6	27.30		
Mean for Ontario.....		4.99	1.73	4.12	7.49	18.33	0.1	9.1	24.1	12.0	11.3	12.7	4.1	S.	73.5	25.66		

XIX.—QUARTERLY RAIN FALL at the several Stations, &c.—Continued.

		Quarterly Depth of Rain in Inches.					Depth of Snow in Inches.								Total Precipitation.	
		Sept. to Nov., 1871.	Dec., 1871, to Feb., 1872.	March to May, 1872.	June to August, 1872.	Total.	1871.			1872.						
							Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.		Total.
Quebec.																
Quebec		7.28	R. 2.62	7.12	17.03	4.0	9.5	29.5	17.0	20.0	14.0	11.7	0.0	105.0	27.53	
Huntingdon		6.70	1.33	6.02	10.51	24.56	S.	5.5	20.6	6.5	24.3	18.9	4.0	0.0	79.8	
Montreal		5.93	1.08	2.56	9.00	18.57	0.2	9.2	26.8	13.6	31.8	29.2	8.3	0.0	119.1	
Richmond			R. 3.80	17.25		0.0		7.5	22.0	11.0	17.3	22.5	7.5	0.0	87.8	
Danville			3.91	4.43	18.28		1.0	7.3	15.8	11.4	16.0	15.6	7.2	0.0	74.3	
Murray Bay		7.86	0.20	4.48	9.05	21.59	3.3	8.9	16.5	8.5	12.2	3.6	3.5	0.0	56.5	
Carleton					13.38		1.3						0.0	0.0		
Chicoutimi														0.0		
Charlesbourg					9.75		S.							S.		
River du Loup							1.0									
Lotbiniere		8.07														
Pointe aux Trembles					8.55		3.0									
Levis			0.44	3.71	11.32				21.2	9.0	35.5	12.9	3.0			
Cape Rozier		2.76	0.35	4.91	5.88	13.90	0.0	4.2	14.0	21.4	63.0	34.5	14.1	3.0	154.6	
Mean for Quebec		6.43	0.54	4.07	10.92	21.96	1.3	7.4	20.8	12.3	27.5	18.9	6.6	0.3	95.1	
Nova Scotia.																
N. & S.W. District.	(Shelburne			11.88	11.35						S. 37.0	0.3	S.			
	Yarmouth	10.67	5.97	10.61			S.	8.6	16.5	6.8	1.1	32.5	1.8	0.0	67.3	
	Liverpool	14.34					0.0	4.5	17.8							
	Mahone Bay			7.06						12.7	12.0	55.5	S.	S.		
	Digby				6.36		S.	5.5	34.0	13.0	22.0	40.0	1.0	S.	115.4	
Mean of District		12.50	5.97	9.86	8.87	37.20	S.	6.2	22.8	10.8	8.8	41.3	0.8	S.	90.7	
Nova Scotia.																
Central District.	(Halifax	12.51	6.86	7.97	13.93	41.27	0.0	10.0	24.8	13.1	19.3	43.0	0.8	S.	111.0	
	Windsor	10.71	7.04	6.07	9.69	33.51	0.0	3.0	12.2	10.6	14.8	44.3	5.0	0.0	90.2	
	Truro			7.96	14.13								4.0	0.0		
	Pictou	10.14	4.30	7.22	13.01	34.67	0.4	7.7	23.0	15.8	30.3	58.2	9.1	0.0	141.5	
	King's College, Windsor.	9.55														
	Seaforth	9.30	6.59	8.83	15.44	16.16	0.0	3.8	19.0	6.4	7.5	40.7	S.	0.0	76.2	
	Beaver Bank	13.26	5.01	6.99	15.90	41.16	0.0	1.5	15.0	2.0	11.5		4.0	0.0		
Central District.	Wolfville	10.33	4.80				0.0	2.7	17.9	14.9	13.0	40.0	1.0	0.0	89.7	
Mean of District		10.83	5.77	7.51	13.68	37.79	0.1	4.8	18.7	10.3	16.2	43.1	2.6	S.	100.8	
Nova Scotia.																
E. & N.E. District.	(Guysborough	11.36	7.38	9.89	14.38	43.10	0.0	16.5	27.0	11.5	15.0	58.5	4.5	1.0	134.0	
	Sydney	13.26	7.92	9.03	12.95	43.16	S.	7.8	35.2	19.2	23.0	42.8	5.0	0.0	133.0	
	Glace Bay	12.39	12.17	12.01	16.24	52.81	0.2	8.8	33.5	18.5	23.3	43.5	11.3	S.	138.1	
	Cape North	9.18	2.12	8.01	13.37	32.68	0.0	18.0	27.5	14.2	18.0	62.0	7.0	0.0	146.7	
Mean of District		11.55	7.40	9.74	14.23	42.92	0.1	12.8	30.8	15.9	19.5	51.4	7.0	0.2	138.0	
Mean for Nova Scotia		11.63	6.38	9.04	12.26	39.31	0.1	7.9	24.1	12.3	14.9	46.9	3.5	0.1	109.8	

XIX—QUARTERLY RAIN FALL at the several Stations, &c.—*Continued.*

	Quarterly Depth of Rain in Inches.					Depth of Snow in Inches.										Total Precipitation.
	Sept. to Nov., 1871.	Dec. 1871, to Feb., 1872.	March to May 1872.	June to August, 1872.	Total.	1871.			1872.							
						Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	Total.		
New Brunswick.																
St. John.....	12·02	6·25	12·11	14·17	44·55	0·2	5·7	19·8	23·3	13·9	34·5	1·4	0·0	98·8	69·19	
Bass River.....	8·11	4·07	7·02	11·16	30·36	4·8	22·4	16·1	23·4	29·2	18·6	8·7	0·0	123·2	42·73	
Petersville.....	11·21	4·67	8·48	.....	.....	S.	6·0	18·0	34·0	19·2	46·0	8·0	0·0	131·2	.....	
Fredericton.....	.....	4·43	9·85	11·56	.....	.....	.....	13·5	30·2	18·8	32·8	5·5	S.	.....	.....	
Dorchester.....	.....	5·89	7·26	15·58	.....	.....	4·2	13·7	15·2	23·0	45·3	7·0	S.	108·2	.....	
McAdam Junction.....	.....	.....	.....	13·47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Bathurst.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mean for N. Brunswick	10·35	5·04	8·94	12·99	37·32	1·7	12·8	16·2	25·2	20·8	35·4	6·1	S.	118·2	49·14	
Manitoba																
Winnipeg.....	.....	0·00	5·55	10·72	.....	0·9	11·5	8·9	5·0	4·8	16·3	39·2	0·0	86·6	.....	
St. John's College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15·3	17·5	S.	.....	.....	
British Columbia.																
Spence's Bridge.....	.....	.....	.....	.....	.....	.....	.....	.....	7·0	9·0	0·0	S.	0·0	.....	.....	
Newfoundland.																
St. John's.....	13·09	.....	.....	16·17	.....	0·8	3·5	.....	7·0	26·2	73·7	9·6	3·4	.....	.....	
Harbour Grace.....	.....	.....	6·64	14·13	.....	.....	5·0	.....	15·0	25·8	67·2	12·5	7·3	.....	.....	
Prince Edwards Island.																
Charlottetown.....	.....	.....	.....	11·04	.....	.....	.....	.....	.....	.....	.....	8·0	S.	.....	.....	

XX.—NUMBER of Days' Rain-fall for each Month and Year at the several Stations in Table XVIII.

		1871.				1872.									
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	
Ontario.															
W. and S. W. District.	Windsor	3	4	4	3	1	3	4	9	13	6	10	10	70	
	Stoney Point	4	5	5											
	Wyoming	5	3												
	Glencoe	6	2	5	3	0	4	1	5	10	6	6			
	London				4	1	3		8	15	12	10	13		
	Woodstock	7	9	9	5	2	4	2	10	17	10	9	13	97	
	Plattsville	8	4	7	3	1	1	0	7	13	8	6	10	68	
	Ingersoll							2	8	11	7	5	10		
	Simcoe	8	7	8	5	1	2	4	6	14	12	7	8	82	
	Widder	9	6	6	3	0	3	0	6						
	Ailsa Craig	6	3	7	5						7	5	8		
Dundas	6	5	5	3	1	3	1	8	10	7	10	7	66		
Hamilton	6	6	6	5	3	4	5	8	13	8	12	15	91		
Mean of District		6.2	4.9	6.2	3.9	1.1	3.0	2.1	7.5	12.9	8.3	8.0	10.4	74.5	
N. and N. W. District.	Little Current	4	5	3				0	2	10	7	9	8		
	Point Clark	12	13	9	4	2	4	3	9	12	8	9	15	100	
	Seaforth	8	7	5	3	0	2								
	Parkhill	6	4	4	3	0	4	2	4	9	6	4	6	52	
	Lucan	4	5	8	4	0	3	2	6	7	4	4	10	57	
	Stratford	8	6	5	3	2	3	1	7	12	8	9	8	72	
	Kincardine	9	8	7	4	1	4	2	7	11	9	11	8	71	
	Goderich	9	8	7	2	0	3	1	9	13	9	11	13	85	
	Orillia	9	13	5	1	1	1	1	8	12	6	10	9	76	
	Collingwood	9	7	3		3			2	9	5	10	9		
	Stayner	10	3	3	1		0	0	4	8	5	7	8		
	Gravenhurst	9	13	5	1	0	3	0	6	13	4	12	8	74	
	Barrie	7	10	3	2	0	3	0	5	13	8	9	10	70	
North Gwillimbury	7	8	3	1	2	2	0	5	8	8	10	9	63		
Georgina	14	11	9	4	3	3	0	9	15	11	10	15	104		
Mean of District		8.3	8.1	5.3	2.5	1.1	2.7	0.9	5.9	10.9	7.0	8.9	9.7	71.3	
Central District.	Newmarket	9	10	6	6				7	15	13	9	15		
	Thornhill	2	2	2	1	0									
	Brampton	7	9	5	4	0	5	2	6	11	5	9	9	72	
	Toronto	8	13	10	4	5	5	2	9	14	8	13	19	110	
	Markham	9	11	4	3	1	3	3	8	13	14	6	7	82	
	Springfield					2			10	13	8	7	12		
	Niagara	7	10	9	4	2	2	3		12	10	7	6		
Mean of District		7.0	9.2	6.0	3.7	1.7	3.8	2.5	8.0	13.0	9.7	8.5	11.3	84.4	

XX.—NUMBER of Days' Rain-fall, for each Month and Year, at the several Stations in Table XVIII.—Continued.

		1871.				1872.											
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.			
Ontario.—Continued.																	
N.E. and E. District.	Oshawa								4	9	8		3				
	Cornwall	5	4	5	1	0	1	1	5	15	17	15	13	81			
	Peterborough	9	8	6	4	1	3	1	6	12	8	9	10	77			
	Belleville	8	11	6	3	0	5	0	4	12	9	11	7	76			
	Brockville			4	2	1	3	2	3	13	8	12	10				
	Fitzroy Harbor	11	14		2	2	3	2	5	14	11	18	11				
	Pembroke	10	12	2	1	0	0	0	1	10	7	10	10	63			
	Ottawa								5	14	8	14	12				
Mean of District		8.6	9.8	4.6	2.2	0.7	2.5	1.0	4.0	12.4	9.5	12.7	9.5	77.5			
Mean for Ontario		7.5	8.0	5.5	3.1	1.2	3.0	1.6	6.4	12.3	8.6	9.5	10.2	76.9			
Quebec.																	
Quebec.	Quebec	6	16	3	2	0	1	0	7	14	12	16	12	89			
	Huntingdon	5	8	6	4	0	3	1	4	14	8	14	17	84			
	Montreal	7	10	6	3	3	2	3	6	16	12	13	16	97			
	Richmond		12	2	0	0	1	0	5	13	12	13	13				
	Danville		5	1	4	1	1	0	5	13	17	13	11				
	Murray Bay	9	15	1	2	0	0	0	5	12	9	13	12	78			
	Carleton		10	4					4	12	10	12	16				
	Chicoutimi	9	13							10							
	Charlesbourg									9	6	11					
	River du Loup	14	17							13	9						
	Lotbiniere	8	14	3						8	5						
	Pointe aux Trembles										7	8	4				
	Levis				2	0	0	1	5	12	8	11	15				
	Cape Rozier	3	3	0	2	0	2	0	6	8	13	11	8	56			
Mean for Quebec		7.6	11.2	2.9	2.4	0.5	1.2	0.6	5.2	11.8	9.8	12.3	12.4	77.9			
Nova Scotia.																	
W. & S.W. District.	Shelburne					7	7	5	11	17	12	12	9				
	Yarmouth	9	8	11	8	7	5	3	9	14	13	9					
	Liverpool	8	9	10	8												
	Mahone Bay					5	6	1	8	11	14						
	Digby	8	9	8	5	5	4	1	6	14	16	14	15	105			
Mean of District		8.3	8.7	9.7	7.0	6.0	5.5	2.5	8.5	14.0	13.8	11.7	12.0	107.7			
Central District.	Halifax	8	8	9	8	7	4	1	7	17	19	15	15	118			
	Windsor	11	12	8	5	7	7	1	4	14	15	9	15	108			
	Truro					7	5	2	8	18	19	12	13				
	Pictou	12	14	7	4	7	6	1	8	16	14	13	15	117			
	King's College, Windsor	9	9	3				1	10	19							
	Seaforth	11	11	10	9	7	4	1	10	18	19	10	15	125			
	Beaver Bank	8	11	8	6	6	3	1	7	11	13	11	10	95			
	Wolfville	11	12	7	6	8	3	1	8	12	13	8					
Mean of District		10.0	11.0	7.4	6.3	7.0	4.6	1.1	7.8	15.6	16.0	11.1	13.8	111.7			

XX.—NUMBER of Days' Rain-fall, for each Month and Year, at the several Stations in Table XVIII.—Continued.

		1871.												1872.													
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year													
<i>Nova Scotia,—Continued.</i>																											
E. and N.E. District.	{	Guyaborough	12	11	9	9	9	6	1	12	13	19	15	17	133												
	{	Sydney	14	19	12	8	11	5	2	9	21	14	19	16	150												
	{	Glace Bay	15	17	10	9	9	4	2	8	20	13	16	15	138												
	{	Cape North	12	16	8	1	4	5	2	10	21	8	13	14	114												
Mean of District		13.3	15.7	9.8	6.7	8.2	5.0	1.8	9.8	18.8	13.5	15.7	15.5	133.8													
Mean for Nova Scotia		10.5	11.8	9.0	6.7	7.1	5.0	1.8	8.7	16.1	14.4	12.8	13.8	117.7													
<i>New Brunswick.</i>																											
New Brunswick.	{	St. John	10	13	6	6	5	2	3	13	22	12	15	13	120												
	{	Bass River	14	15	7	4	5	2	2	11	16	15	14	14	119												
	{	Petersville	7	11	4	2	0	2	2	4	13	10	.....	.....	.....												
	{	Fredericton .....	.....	.....	.....	4	4	3	3	8	15	11	14	16	.....												
	{	Dorchester .....	.....	.....	6	5	8	2	1	10	16	15	7	12	.....												
	{	McAdam Junction .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	9	11	.....												
Bathurst .....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	7	.....													
Mean for New Brunswick		10.3	13.0	5.7	4.2	4.4	2.2	2.2	9.2	16.4	12.0	11.8	12.2	103.6													
<i>Manitoba.</i>																											
Winnipeg .....		.....	5	1	0	0	0	1	3	14	9	8	6	.....													
St. John's College .....		.....	.....	.....	.....	.....	.....	.....	3	10	6	.....	.....	.....													
<i>British Columbia.</i>																											
Spence's Bridge .....		.....	.....	.....	.....	3	6	5	4	4	3	6	5	.....													
<i>Newfoundland.</i>																											
St. John's		13	18	14	18	10	5	1	9	22	16	14	14	154													
Harbor Grace .....		.....	.....	13	.....	8	9	2	14	14	15	19	17	.....													
<i>Prince Edward's Island.</i>																											
Charlottetown .....		.....	.....	.....	.....	.....	.....	.....	15	19	15	14	15	.....													

XXI.—QUARTERLY Number of Day's Rain fall, with the Number of Day's Snow during the period September 1871 to August 1872, inclusive.

		Quarterly No. of Days Rain.					No. of Days Snow.								Total.					
		Sept. to Nov. 1871.	Dec. 1871 to Feb. 1872.	March to May 1872.	June to August 1872.	Total.	1871			1872										
							Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May						
Ontario.																				
W. and S. W. District.	Windsor.....	11	7	26	26	70	0	4	11	5	3	9	1	0	33					
	Stoney Point.....	14					0	2												
	Wyoming.....																			
	Glencoe.....	13	7	16			0	2	4	4	2	3	1	0	16					
	London.....		8		35				15	13			3	0						
	Woodstock.....	25	11	29	32	97	0	6	18	17	12	17	1	0	71					
	Plattsville.....	19	5	20	24	68	0	8	20	3	7	8	1	0	47					
	Ingersoll.....			21	22				11			5	4	0						
	Simcoe.....	23	8	24	27	82	0	8	20	7	3	5	1	0	44					
N. and N. W. District.	Widder.....	21	6				0	4	11	11	5	7	1	0	39					
	Ailsa Craig.....	16			20		1	4	12						0					
	Dundas.....	16	7	19	24	66	0	5	11	8	4	9	1	0	38					
	Hamilton.....	18	12	26	35	91	1	6	8	16	10	20	5	0	66					
	Mean of District.....	17.6	7.9	22.6	27.2	75.3	0.2	4.9	12.8	9.3	6.0	9.2	1.9	0.0	44.3					
	Gen'l District.	Little Current.....	12		12	24		1	2				7	2	0					
		Point Clark.....	34	10	24	32	100	0	11	16	15	7	14	3	2	68				
		Seaforth.....	20	5				6	10	8	5									
		Parkhill.....	14	7	15	16	52	0	7	9	10	5	6	3	0	40				
Lucan.....		17	7	15	18	57	0	4	15	8	4	5	1	0	37					
Stratford.....		19	8	20	25	72	1	8	16	9	6	13	5	2	60					
Kincardine.....		24	9	20	28	71	0	14	19	15	9	17	3	1	78					
Goderich.....		24	5	23	33	85	1	8	20	14	5	10	2	1	61					
Orillia.....		27	3	21	25	76	2	9	21	14	8	13	6	1	74					
Collingwood.....		19			24		1	8		12			3	0						
Stayner.....		16		12	20		0	6	13		0	8	5	0						
N. E. & E. Dist.	Gravenhurst.....	27	4	19	24	74	1	5	19	13	8	12	4	1	63					
	Barrie.....	20	5	18	27	70	2	8	16	11	11	10	6	2	66					
	N. Gwillimbury.....	18	5	13	27	63	1	7	18	10	7	10	4	1	58					
	Georgina.....	34	10	24	36	104	1	9	22	12	9	18	7	0	78					
	Mean of District.....	21.7	6.5	18.2	25.8	72.2	1.1	7.7	16.3	11.4	6.2	11.1	3.7	0.7	58.2					
	Oshawa.	Newmarket.....	25			37		0	5	26				3	1					
		Thornhill.....	6					0	2	7	2									
		Brampton.....	21	9	19	23	72	0	6	13	12	8	12	4	0	55				
		Toronto.....	31	14	25	40	110	0	12	20	15	9	14	5	0	75				
		Markham.....	24	7	24	27	82	0	9	10	10	8	14	4	0	55				
		Springfield.....				27					2			2	0					
Niagara.....		26	8		23		0	4	15	7	7	12	0	0	45					
Mean for Ontario.	Mean of District.....	22.2	9.5	22.7	29.5	83.9	0.0	6.3	15.2	8.0	8.0	13.0	3.0	0.2	53.7					
	Oshawa.....																			
	Cornwall.....	14	2	20	45	81	1	7	5	8	10	11	5	0	47					
	Peterborough.....	23	8	19	27	77	2	5	14	16	11	12	5	0	65					
	Bellville.....	25	8	16	27	76	0	4	17	10	7	9	2	0	49					
	Brockville.....		6	18	30		0	5	14	6	5	14	1	0	45					
	Fitzroy Harbor.....		7	21	40		2	3	10	7	9	14	3	0	78					
Mean for Ontario.	Pembroke.....	24	1	11	27	63	3	10	23	7	—	7	1	0						
	Ottawa.....				32								5							
	Mean of District.....	21.5	5.3	21.0	32.6	80.4	1.3	5.7	13.8	9.0	8.4	11.2	3.7	0.0	53.1					
Mean for Ontario.....		20.7	7.3	21.1	28.8	77.9	0.7	6.1	14.5	9.4	7.2	11.1	3.1	0.3	52.3					

XXI.—QUARTERLY Number of Day's Rain fall, with the Number of Day's Snow during the period September 1871, to August, 1872, inclusive.—*Continued.*

		Quarterly No. of Days Rain.					No. of Days Snow.									Total.
		Sept. to Nov. 1871.	Dec. 1871 to Feb. 1872.	March to May 1872.	June to August 1872.	Total.	1871			1872						
							Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May		
<i>Quebec,</i>																
Quebec		25	3	21	40	89	2	6	15	9	10	9	8	0	59	
Huntingdon		19	7	19	39	84	1	5	14	12	7	13	4	0	56	
Montreal		23	8	25	41	97	1	8	21	13	8	15	4	0	70	
Richmond			1	18	38		0	6	12	9	7	12	6	0	52	
Danville			6	18	41		1	8	14	9	10	19	6	0	67	
Murray Bay		25	2	17	34	78	2	8	11	7	7	7	1	0	43	
Carleton					38		2						0	0		
Chicoutimi														0		
Charlesbourg							1							0		
River du Loup							4							1		
Lotbiniere		25						1						0		
Pointe aux Trembles					19		1							2		
Levis			2	18	34				7	14	11	10		0		
Cape Rozier		6	4	14	32	56	0	7	3	6	7	6	6	2	37	
Mean of Quebec		20.5	4.1	18.8	35.6	79.0	1.4	8.1	12.1	9.9	8.4	11.4	4.1	0.2	55.6	
<i>Nova Scotia,</i>																
W. & S.W. District.	(Shelburne			33	33					2	2	15	3	1		
	Yarmouth	28	20	26			1	6	11	10	8	16	3	0	55	
	Liverpool	27					0	3	13							
	Mahone Bay			20					9	8	14	4	1			
	Digby	25	14	21	45	104	1	7	15	7	7	12	4	1	54	
Mean of District		26.7	17.0	25.0	39.0	107.7	0.7	5.3	13.0	9.3	6.2	14.2	3.5	0.8	53.0	
<i>Nova Scotia,</i>																
Central District.	(Halifax	25	19	25	49	118	0	13	13	6	8	11	1	3	55	
	Windsor	31	19	19	39	108	0	3	8	6	10	12	1	0	40	
	Truro			28	44					8	8	12	3	0		
	Pictou	33	17	25	42	117	3	5	8	7	12	11	5	0	51	
	Kings Coll. Windsor	21		30									1	1		
	Seaforth	32	20	29	44	125	0	6	21	24	10	12	1	0	64	
	Beaver Bank	27	15	19	34	95	0	1	6	5	3	9	2	0	26	
(Wolfville	30	17	21			0	4	11	9	10	12	3	0	49		
Mean of District		28.4	17.8	24.5	42.0	112.7	0.5	5.3	11.2	7.9	8.7	11.3	2.1	0.5	47.5	
<i>Nova Scotia,</i>																
E. & N.E. District.	(Guysborough	32	24	26	51	133	0	12	14	7	9	16	3	1	62	
	Sydney	45	24	32	49	150	1	9	20	15	8	16	6	0	75	
	Glace Bay	42	22	30	44	138	2	11	13	8	8	16	8	2	68	
	Cape North	36	10	33	35	114	0	4	10	8	3	15	3	0	43	
Mean of District		38.7	20.0	30.3	44.8	133.8	0.8	9.0	14.2	9.5	7.0	15.7	5.0	0.8	62.0	
Mean for Nova Scotia		31.3	18.3	26.6	41.9	118.1	0.7	6.5	12.8	8.9	7.3	13.7	3.5	0.7	54.1	
<i>New Brunswick,</i>																
St. John		29	13	38	40	120	2	5	17	12	10	10	3	0	59	
Basin River		36	11	29	43	119	2	13	16	10	11	16	7	0	75	
Petersville		23	4	19			2	2	7	6	6	7	1	0	30	
Fredericton			11	26	41				8	9	10	13	1	1		

XXI.—QUARTERLY Number of Day's Rain fall, with the Number of Day's Snow during the period September 1871, to August, 1872, inclusive.—*Continued.*

	Quarterly No. of Day's Rain.					No. of Days Snow.								Total.
	Sept. to Nov. 1871	Dec. 1871 to Feb. 1872.	March to May, 1872.	June to August 1871.	Total.	1871			1872					
						Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	
<i>New Brunswick.—Continued.</i>														
Dorchester.....		15	27	34			3	8	5	2	12	3	2	
McAdams Junction				29										
Bathurst.....														
Mean for N. Brunswick....	29.0	10.8	27.8	37.4	105.0	2.6	5.7	11.2	8.4	7.6	11.6	3.0	0.6	50.1
<i>Manitoba.</i>														
Winnipeg.....		0	18	23		3	8	6	5	8	9	7	0	46
St. Johns College.....											8	8	3	
<i>British Columbia</i>														
Spences Bridge.....			13	14					4	6	0	2	0	
<i>Newfoundland.</i>														
St. Johns.....	45	33	32	44	154	2	6	7	10	11	22	12	3	73
Harbor Grace.....			30	51		9			14	13	21	8	2	
<i>Prince Edwards Island</i>														
Charlottetown.....				44								4	1	

XXII.—Average Depth of Rain, in inches, for the several Provinces of the Dominion of Canada from September 1871 to August 1872, with the average number of Days' Rain fall for the same period.

	1871.				1872.								Year.
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	
Ontario { W. and W. S. District.....	1.67	0.88	1.96	1.04	0.57	0.65	0.40	1.44	2.79	2.25	1.83	2.69	18.17
Ontario { N. and N. W. District.....	2.31	1.55	1.72	0.37	0.07	0.55	0.23	1.29	3.08	2.43	2.79	2.35	18.74
Ontario { Central District.....	1.72	0.86	2.24	0.57	0.16	0.49	0.62	1.07	2.23	2.52	1.96	2.29	16.73
Ontario { N. E. and E. District.....	1.39	1.44	1.90	0.46	0.12	0.77	0.01	0.49	3.00	2.63	3.21	2.60	18.11
Quebec.....	1.77	1.18	1.96	0.61	0.23	0.62	0.31	1.07	2.78	2.46	2.44	2.51	17.94
New Brunswick.....	2.08	2.83	0.83	0.45	0.07	0.01	0.01	1.50	2.72	2.44	3.93	4.48	22.35
Nova Scotia { W. and S. W. District.....	2.99	5.31	3.46	2.41	2.13	0.51	1.28	1.44	6.22	3.77	4.03	4.82	38.37
Nova Scotia { Central District.....	3.11	4.77	4.64	2.30	1.86	1.72	0.98	2.87	5.13	4.09	2.64	7.09	41.20
Nova Scotia { E. and N. E. District.....	4.22	3.84	2.77	2.37	1.93	1.61	0.67	2.29	4.25	3.83	3.36	6.05	37.19
Nova Scotia.....	4.30	3.49	3.76	1.71	3.19	2.50	0.99	2.54	6.20	4.22	4.09	5.93	42.92
Nova Scotia.....	3.88	4.03	3.72	2.13	2.33	1.94	0.88	2.57	5.19	4.05	3.36	6.36	40.44

DAYS.

Ontario { W. and S. W. District.....	6.2	4.9	6.2	3.9	1.1	3.0	2.1	7.5	12.9	8.3	8.0	10.4	74.5
Ontario { N. and N. W. District.....	8.3	8.1	5.3	2.5	1.1	2.7	0.9	5.9	10.9	7.0	8.9	9.7	71.3
Ontario { Central District.....	7.0	9.2	6.0	3.7	1.7	3.8	2.5	8.0	13.0	9.7	8.5	11.3	84.4
Ontario { N. E. and E. District.....	8.6	9.8	4.6	2.2	0.7	2.5	1.0	4.0	12.4	9.5	12.7	9.5	77.5
Quebec.....	7.5	8.0	5.5	3.1	1.2	3.0	1.6	6.4	12.3	8.6	9.5	10.2	76.9
New Brunswick.....	7.6	11.2	2.9	2.4	0.5	1.2	0.6	5.2	11.8	9.8	12.3	12.4	77.9
Nova Scotia { W. and S. W. District.....	10.3	13.0	5.7	4.2	4.4	2.2	2.2	9.2	16.4	12.0	11.8	12.2	103.6
Nova Scotia { Central District.....	8.3	8.7	9.7	7.0	6.0	5.5	2.5	8.5	14.0	13.8	11.7	12.0	107.7
Nova Scotia { E. and N. E. District.....	10.0	11.0	7.4	6.3	7.0	4.6	1.1	7.8	15.6	16.0	11.1	13.8	111.7
Nova Scotia.....	13.3	15.7	9.8	6.7	8.2	5.0	1.8	9.8	18.8	13.5	15.7	15.5	133.8
Nova Scotia.....	10.5	11.8	9.0	6.7	7.1	5.0	1.8	8.7	16.1	14.4	12.8	13.8	117.7

XXIII.—Quarterly average, depth of Rain in the several Provinces, with the average depth of Snow for each month and the year, and the average number of Days for the same period.

		Quarterly depth of Rain in inches.				Depth of Snow in inches.								Total.
						1871.			1872.					
		Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	
Ontario.	{ W. and S. W. District	4.55	2.38	4.44	6.73	8	7.3	16.0	12.1	9.2	11.4	1.1	8	57.1
	{ N. and N. W. District.....	5.58	1.03	4.67	7.59	0.3	14.8	37.0	17.4	9.6	14.5	6.3	8	99.9
	{ Central District	4.81	2.16	3.71	6.77	0.0	6.7	18.2	7.4	8.0	11.6	1.3	8	53.2
	{ N. and N. E. District	5.04	1.35	3.66	8.89	0.1	7.4	25.4	11.2	18.2	13.5	7.8	0.0	83.6
Ontario	.....	4.99	1.73	4.12	7.49	0.1	9.1	24.1	12.0	11.3	12.7	4.1	8	73.5
Quebec	.....	6.43	0.51	4.07	10.92	1.3	7.4	20.8	12.3	27.5	18.9	6.6	0.3	95.1
New Brunswick	.....	10.35	5.04	8.94	12.99	1.7	12.8	16.2	25.2	20.8	35.4	6.1	8	118.2
Nova Scotia	{ W. and S. W. District.....	12.51	5.97	9.86	8.86	5	6.2	22.8	10.8	8.8	41.3	0.8	8	90.7
	{ Central District	10.83	5.77	7.51	13.68	0.1	4.8	18.7	10.3	16.2	48.1	2.6	8	100.8
	{ E. and N. E. District.....	11.55	7.40	9.74	14.23	0.1	12.8	30.8	15.9	19.8	51.4	7.0	0.2	138.0
Nova Scotia	.....	11.63	6.38	9.04	12.26	0.1	7.9	24.1	12.3	14.9	46.9	3.5	0.1	109.8

DAYS.

Ontario.	{ W. and S. W. District	17.6	7.9	22.6	27.2	0.2	4.9	12.8	9.3	6.0	9.2	1.9	0.0	44.3
	{ N. and N. W. District	21.7	6.5	18.2	25.5	1.1	7.7	16.3	11.4	6.2	11.1	3.7	0.7	58.2
	{ Central District	22.2	9.5	22.7	29.5	0.0	6.3	15.2	8.0	8.0	13.0	3.0	0.2	53.7
	{ N. and N. E. District	21.5	5.3	21.0	32.6	1.3	5.7	13.8	9.0	8.4	11.2	3.7	0.0	53.1
Ontario		20.7	7.3	21.1	28.8	0.7	6.1	14.5	9.4	7.2	11.1	3.1	0.2	52.3
Quebec		20.5	4.1	18.8	35.6	1.4	8.1	12.1	9.9	8.4	11.4	4.1	0.2	55.6
New Brunswick		29.0	10.8	27.8	37.4	2.0	5.7	11.2	8.4	7.6	11.6	3.0	0.6	60.1
Nova Scotia.	{ W. and S. W. District	26.7	17.0	25.0	39.0	0.7	5.3	13.0	9.3	6.2	14.2	3.5	0.8	53.0
	{ Central District	28.4	17.8	24.5	42.0	0.5	5.3	11.2	7.9	8.7	11.3	2.1	0.5	47.3
	{ E. and N. E. District	38.7	20.0	30.3	44.8	0.8	9.0	14.2	9.5	7.0	15.7	5.0	0.8	62.0
	Nova Scotia	31.3	18.3	26.6	41.9	0.7	6.5	12.8	8.9	7.3	13.7	3.5	0.7	54.1

	Quarters.					Yearly Rainfall.					Yearly depth of Snow.									
	Autumn.		Winter.		Spring.	Summer.		1871.	1872.	Average.	1869.	1870.	1871.	1872.	Yearly Average.					
	1870.	1871.	1869.	1870.		1871.	1872.													
W. and S. W. District.....	8.02	8.44	4.55	11.38	3.04	2.38	5.13	7.25	4.41	14.84	8.11	6.73	39.37	26.84	18.10	28.10	93.6	62.4	57.1	71.0
N. and N. W. District.....	6.76	9.09	5.58	2.16	1.23	1.03	3.95	5.41	4.67	12.51	5.04	7.59	25.38	20.77	18.87	21.67	135.9	113.6	99.9	116.8
Central District.....	.....	8.95	4.81	6.82	2.65	2.16	3.88	8.67	3.71	11.13	5.67	6.77	.....	25.94	17.43	21.69	.....	79.9	53.2	66.6
N. and N. E. District.....	9.79	8.56	5.04	4.58	1.88	1.35	4.13	5.79	3.66	6.98	7.00	8.89	25.48	23.23	18.94	22.55	120.5	84.0	83.6	96.0
Ontario.....	8.19	8.70	4.99	6.23	2.20	1.73	4.27	6.78	4.12	11.36	6.45	7.49	30.03	24.13	18.34	24.17	118.6	85.0	73.5	92.4
Quebec.....	8.94	8.77	6.43	1.75	1.80	0.54	2.11	6.14	4.07	8.98	10.89	10.92	21.78	27.60	21.96	23.78	112.1	74.2	95.1	95.1
New Brunswick.....	.....	14.62	10.35	.....	4.02	5.04	.....	7.82	8.94	8.57	10.22	12.99	.....	36.68	37.32	37.00	.....	88.2	118.2	103.2
Nova Scotia.....	14.46	17.11	11.63	17.42	8.34	6.38	5.78	8.45	9.04	8.93	10.74	12.26	46.59	44.64	39.21	43.51	83.6	75.7	109.8	89.7

DAYS.

W. and S. W. District.....	21.3	26.5	17.6	20.7	10.1	7.9	22.4	23.4	22.6	31.7	25.3	27.2	96.1	85.3	75.3	85.6	57.5	38.8	44.3	46.9
N. and N. W. District.....	26.7	36.3	21.7	14.2	7.2	9.5	19.1	23.8	18.2	36.9	24.5	25.8	95.9	91.8	73.2	86.6	74.6	66.1	59.2	66.3
Central District.....	.....	27.3	22.2	17.5	9.3	5.3	15.0	22.2	22.7	36.3	24.1	29.5	.....	82.9	83.9	83.4	.....	43.3	48.3	48.5
N. and N. E. District.....	19.0	27.3	21.5	11.7	7.0	5.3	20.2	26.9	21.0	31.6	30.4	32.6	82.5	91.8	80.4	84.8	58.7	52.3	53.1	54.7
Ontario.....	22.3	29.4	20.7	16.0	8.4	7.3	19.2	24.1	21.1	33.9	26.1	28.8	91.4	88.0	77.9	85.8	63.6	50.1	52.3	55.3
Quebec.....	.....	27.8	20.5	.....	11.5	4.1	15.2	32.3	18.8	36.2	45.7	35.6	.....	117.3	79.0	98.1	.....	53.3	55.6	54.4
New Brunswick.....	.....	30.0	29.0	.....	17.5	10.8	.....	30.7	27.8	35.5	33.3	37.4	.....	111.5	105.0	108.2	.....	73.0	50.1	61.6
Nova Scotia.....	.....	37.9	31.3	.....	22.0	18.3	27.3	31.1	26.6	31.4	37.3	41.9	.....	128.3	118.1	123.2	.....	44.9	54.2	49.6

**STATEMENT of Expenditure on account of Meteorological Observations during
fiscal Year, ended 30th June, 1872.**

Name.	Name of Service.	Amount.	Total
	<i>Head Office.</i>	\$ cts.	\$ ts.
W. A. Stewart.....	Tabulating	183 00	
E. J. Everest	Computation and attendance at Telegraph Office.....	145 45	
C. E. Stewart.....	Copying, &c.....	66 15	
T. Menzies	Superintending construction and despatching meteorological apparatus	84 00	
W. H. Dowdson	Miscellaneous services	99 00	
T. F. Frothingham.....	Computation and attendance at Telegraph Office.....	92 75	
D. A. McMichael	Compiling Bulletins	8 00	
J. A. Stewart.....	Messenger.....	31 90	
C. Sturgeon.....	do	46 10	756 35
	<i>Chief Stations.</i>		
F. Allison	Twelve months' salary as Observer at Halifax	400 00	
G. Murdoch	do do St. John	400 00	
Dr. Smallwood.....	do do Montreal	500 00	
Dr. Jack ..	Nine do do Fredericton ..	300 00	
G. C. Haney ..	do do Ottawa	252 13	
D. A. Smith for Lord Bishop of Rupert's Land.....	To cover expenses of Observatory, Fort Garry, for six months to 30 June, 1872	250 00	
F. Allison	Allowance for instruments, Halifax.....	100 00	
G. Murdoch.....	do do St. John	100 00	
Dr. Jack	do do Fredericton.....	100 00	
Dr. Smallwood ..	do do Montreal.....	100 00	
Lord Bishop of Rupert's Land.....	do do Manitoba	200 00	2,702 13
	<i>Telegraph Stations.</i>		
J. R. Stewart.....	5 months' salary as Observer at Saugeen	90 00	
Kate Stewart	5 do Assistant do	10 00	
M. Payne.....	7 do Observer at Stanley.....	122 00	
C. A. Payne	5 do Assistant do	15 00	
H. Morgan	5 do Observer at Dover	122 00	
Annie Newill	5 do Assistant do	12 50	
Jas. Dowell	6½ do Observer at Kingston	122 00	
D. B. McTavish.....	6½ do Assistant do	15 00	
J. R. Stewart.....	Fitting up office at Saugeen	18 10	
H. Morgan.....	do Dover	31 56	
J. Wetherall.....	Wages as temporary Observer, Woodstock	20 00	573 16
	<i>General Account.</i>		
G. C. Haney.....	Expenses at Toronto while being instructed by Professor Kingston	50 00	
C. Patton.....	Instruments, &c.....	98 00	
Negretti and Lambia.....	do	179 48	
Magnetic Observatory	do	149 00	
James Green	do	696 99	
London Meteorological Office ..	do	49 82	
T. D. King	Thermometers.....	9 00	
H. F. Davidson	Rain-gauges	9 82	
W. H. A. Sparrow.....	do and wind vanes	166 00	
Rice, Lewis & Co.....	Hardware	77 36	
W. Burk	Lumber, blinds, &c.....	216 57	
	<i>Carried forward</i>		

STATEMENT of Expenditure on account of Meteorological Observations during
fiscal Year, ended 30th June, 1874.—*Continued.*

Name.	Name of Service.	Amount.	Total.
		\$ cts.	\$ cts.
	<i>Brought forward</i>		
	<i>General Account.—Continued.</i>		
Dill & Milligan	Thermometer sheds	17 00	
Dr. Jack	Barometer	35 00	
Munro & Kennedy	Plasterer's work	65 50	
W. Menzies	Thermometers, water-gauges, screens, &c.	369 10	
Montreal Telegraph Company.	Bringing telegraph to Observatory	200 00	
W. Briscoe	Iron supports	5 45	
Copp & Clark	Books, printed instructions &c.	429 00	
H. Powell	Registers	30 50	
Signal Department, Washing-			
ton	Maps	10 12	
Mons. Peruet	Translating instructions	24 00	
A. Rowsell	Stationery	38 00	
Stewart & Parish	do	17 50	
Rowell & Hutchinson	do	156 10	
W. F. Dawson	Bookbinding	47 15	
A. Payne	Carpenter's work	8 92	
A. Sinclair	Sundry work	14 00	
T. Menzies	Expenses to Saugeen and back to Toronto	18 00	
S. Woods	Office fittings, Kingston	50 00	
W. Briscoe	Iron	6 20	
Prowse, Bros	Hemisphere for anemometer	6 00	
G. A. Everest	Graduating glass slips	9 00	
C. Scadding	Stamps	3 95	
F. Allison	Sundry expenses at Halifax	44 87	
G. T. Kingston	Travelling expenses, express charges, postage, &c.	385 80	
Montreal Telegraph Company.	Telegraphing	230 86	
G. Murdoch	Rain-gauges	2 45	
D. Abel	Attendance at station, Port Dover	8 00	
W. R. Begg	Wind vane	2 00	
A. J. Parish	Case for documents	17 50	
A. Hay	Desk, &c.	9 35	
			3,963 36
	Total		8,000 00

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

Department of Marine and Fisheries,
Ottawa, 2nd January, 1873.

APPENDIX No. 17.

REPORT ON THE MONTREAL OBSERVATORY FOR THE FISCAL YEAR
ENDED 30TH JUNE, 1872.MONTREAL OBSERVATORY,
30TH JUNE, 1872.To the Honorable PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honour to report, for your information, upon the work done at this Observatory during the fiscal year ended this date.

The former report which I had the honour to transmit, and which was published in the Appendix No. 14 of your annual report for the year 1871, extended to the 31st December, 1871.

I have therefore annexed hereto a continuation of the table, containing the observations in a condensed form, showing the atmospheric pressure, temperature, wind, amount of rain and snow, and the extent of clouds from the 1st of January, 1872, to the 30th June inclusive.

The observations on *Time* are still continued, and, at the request of the Honorable the Postmaster General, are transmitted daily to Ottawa for the use of the Government Offices, and is known as formerly by the firing of a gun at noon.

The *winding up, rating and correcting* of ships' chronometers still forms an important item in the work connected with the Observatory. Several to this date have been sent up.

The usual tri-daily observations on atmospheric pressure, temperature, humidity, rain, snow, aurora, ozone, and other phenomena have been daily observed and recorded. Copies of these observations are transmitted regularly to the Central Observatory at Toronto, which is under the distinguished and able care of Professor Kingston.

The magnetic observations have been taken as formerly, but the want of proper assistants prevents a more extensive and careful record from being kept.

Several important and useful appliances are in process of construction, a more detailed account of which will be forwarded in the next annual report.

At the request of Professor Kingston a *Signal Drum*, intended to indicate the approach of storms or dangerous weather, will shortly be erected; this will be placed in full view of the shipping in the harbour, at the canal and in the river.

A *Thermometer House*, for the observations of the thermometer, and the temperature of air, has been constructed.

This Observatory is still in connection with the *Signal Office*, at the War Department of the United States, and although rendering important facts to science, imposes a considerable amount of labour and expense.

Professor Kingston intends shortly to connect this Observatory with the Central Observatory at Toronto, and with several other places in the Dominion.

The sum of money placed at the disposal of Professor Kingston, and paid over to me for the purchase of instruments has been in a great measure laid out, and other instruments are now on their way out from the Kew Observatory, from the manufactories of Cassell's, of London, which will take up the whole of the balance remaining. Professor Kingston kindly ordered these instruments, and also obtained their verification, at the Kew Observatory.

I may mention that the expense of erecting the *Signal Drum* has been generously voted by the City Council.

I have, &c.,
CHARLES SMALLWOOD,
M.D., L.L.D., D.C.L.

TABLE OF OBSERVATIONS.

1872.	BAROMETER CORRECTED AND AT 32° F.			TEMPERATURE—FAHRENHEIT.										WIND.		RAIN IN INCHES		SNOW IN INCHES		CLOUD				
	Monthly Mean.	Highest.	Lowest.	Monthly Range.	Monthly Mean.		Mean Minimum.	Monthly Range.	Highest.		Lowest.		Warmest Day.		Coldest Day.		Most prevalent.	Mean Velocity in miles per hour.	Number of days.		Amount.	Number of Days.	Amount.	
					Range.	Date.			Range.	Date.	Mean Term.	Date.	Mean Term.	Date.										
Months.																								Except in 10ths.
January.....	29.747	30.530	29.260	1.270	19.34	26.44	11.97	0	42.0	12th	9.9	7th	12th	35.5	7th	3.2	W.	5.92	3	0.576	11	13.69	0.48	
February.....	772	824	250	0.936	20.49	31.03	10.19	0	44.6	12th	32.9	22d.	9.9	W.	5.90	2	0.094	8	31.85	0.30	0.094	8	31.85	0.30
March.....	802	876	300	1.076	21.72	31.26	11.37	0	52.1	27th	38.9	5th	8.7	W.	6.41	3	0.100	15	29.23	0.26	0.100	15	29.23	0.26
April.....	813	310	249	1.061	45.06	54.66	34.09	0	73.1	30th	59.2	1st	30.3	W.	4.84	6	0.550	4	8.44	0.38	0.550	4	8.44	0.38
May.....	866	231	450	0.335	58.82	68.74	49.10	0	83.6	7th	68.4	23d.	52.3	W.	5.93	16	1.868	0	.....	0.38	1.868	0	.....	0.38
June.....	942	249	604	0.615	67.18	76.35	60.00	0	92.2	21st	82.2	4th	54.4	W.	6.23	12	2.245	0	.....	0.37	2.245	0	.....	0.37

APPENDIX No. 18.

REPORT OF DIRECTOR OF QUEBEC OBSERVATORY FOR FISCAL YEAR
ENDED 30TH JUNE, 1872,OBSERVATORY, QUEBEC,
Nov. 22nd, 1872.

SIR,—I have the honor to state that the shipping have had the Greenwich Time given to them each day, Sunday excepted, during the season of navigation, and it may be as well to point out that the magnificent fleet of Steamships belonging to the Allan Line, as well as others now trading to this Port, can, with confidence, get time to a second, which in a measure is the reason that so few accidents have occurred in navigating them; and I think that before long, other Time Balls may be dropped by this Observatory, as this important duty should only be intrusted to people who have passed an examination of competency.

I have had each year to record the failure of the Time Ball dropping in consequence of its freezing to the mast several times during the month of November, but this year I have had the plan of hoisting and dropping the ball altered in accordance with a plan of my own, and I am happy to say that it answers completely, so that the shipping have not once been deprived of obtaining "Time."

As there is a sum put in the estimates for building an Observatory on the site of the old farm house, I trust that it may be finished before May, when all the observations can be taken in the same place, instead of having to go the Citadel.

I am proud to say that in celestial photography, Quebec stands in the very highest place, and I trust that the new building, with more convenience for carrying on this delicate art, I may produce sun pictures creditable to myself and conducive to the advancement of science. I have already four years record of his surface, from which I am determining many important results, the value of which, I am happy to say, the Royal Society fully recognized, as may be seen by the following resolution passed at one of their meetings :—

"ROYAL SOCIETY, BURLINGTON HOUSE,
"LONDON, Dec. 15th, 1871.

"*Resolved*, that the President and Council fully recognize the general value of the "work in which Captain Ashe is engaged."

In order that this learned body as well as others may have a copy of my researches, it will be quite necessary that I should print them, and I hope that a sum may be put in the Estimates for that purpose.

I think that every two years I might have material enough, and of sufficient interest to publish. As the photographs would be expensive, I think that \$400 every two years would be required for that purpose.

In the coming transit of Venus which all nations are preparing to observe, celestial photography will give the most valuable results, and although this present transit (1874), America will be no field for observation, nevertheless eight years after (1882) another transit of Venus will occur, when Quebec will be more favorably situated as a place of observation, and as no other transit takes place for upwards of a hundred years, it is to be hoped that the Quebec Observatory will perform the onerous duty which will then be imposed upon it.

Since my last Report, Quebec has been selected as one of the chief Meteorological Stations, where observations are taken and sent to Toronto.

As I am situated about two miles from the Telegraphic Office, the plan of sending a boy to the office with a weather telegram during the winter nights would be the cause of

frequent interruptions. I therefore resolved to learn the art of telegraphy, and now that I have the wire brought into the house, telegrams are sent to Professor Kingston, at Toronto, and I trust that in a short time a knowledge of our Canadian weather will be obtained that will enable storm signals to be given with an accuracy, that life and property may be saved thereby.

The question of the boundary line between the gaol property and the grounds of the Observatory has not been settled, and in consequence the fencing cannot be completed.

I append a statement of the expenditure of this establishment during the financial year.

I have &c.,

E. D. ASHF.

Statement of Expenditure.

Director's Salary	\$1,346 64
Assistant's "	461 40
Labourer's "	80 00
Superannuation Tax	56 04
Photographic materials, postage stamps, repairs to House, &c., ...	425 92

I have, &c., \$2,400 00

E. D. ASHE.

APPENDIX 18.—STATEMENT of Expenditure on Account of Observatory, Quebec, for Fiscal Year ended 30th June, 1872.

		\$ cts	\$ cts
E. D. Ashe.....	Twelve months' salary as Director.....	1,346 64	
Receiver General.....	Deposit of tax on salary.....	56 07	1,402 71
J. Heatty.....	Twelve months' salary as Assistant.....		491 40
J. McGowan.....	" " Labourer		41 50
J. Austin.....	" " "		30 00
P. Roy.....	" " "		6 95
J. Davis.....	Glazing windows.....		2 00
Canadian Express Co.....	Freight and charges on sundries.....		9 60
H. O. Donohoe and others.....	Carting and cutting wood.....		30 90
J. Oaks.....	Cordwood.....		60 00
Post Office.....	Postage stamps and postage.....		36 01
Middleton & Dawson.....	Stationery.....		54 58
G. Meade.....	Repairs.....		15 35
J. J. Foote.....	Advertising.....		35 00
E. Doherty & Co.....	Towelling, &c.....		7 30
W. F. Stanley.....	Instruments.....		18 00
R. Sampson.....	Repairs to instruments.....		29 80
G. Martin.....	Chemicals.....		18 40
J. Masson.....	"		15 29
J. Buck.....	"		12 55
S. Shaw.....	Hardware.....		16 29
A. J. Shaw.....	"		6 99
Ann Kane.....	Tinware.....		8 35
C. Beverley.....	Oil.....		8 12
Woody & Co.....	Iron pipe, &c.....		14 38
E. D. Ashe.....	Petty disbursements.....		28 53

APPENDIX No. 18.—STATEMENT of Expenditure on Account of Observatory, Quebec, for
Fiscal Year ended 30th June, 1872.

		\$ cts.	\$ cts.
REPAIRS AND ALTERATIONS TO TIME BALL, QUEBEC.			
J. Archer	Wages of mechanics and materials required...	534 71	
Montreal Telegraph Co	Constructing telegraph line to Observatory....	150 00	
J. Archer.....	Fences, gates, &c., at Observatory.....	212 70	
"	" Director's residence.....	60 00	
W. Mahone.....	Repairs to road to Observatory	32 74	
C. L. Fortin.....	Telegraph apparatus.....	9 85	
			1,000 00
			\$3,400 00

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

Department of Marine and Fisheries,

Ottawa, 2nd January, 1873.

APPENDIX No. 19.

REPORT ON OBSERVATORY AT FORT HOWE, ST. JOHN, NEW BRUNSWICK, FOR FISCAL YEAR ENDED 30TH JUNE, 1872.

SAINT JOHN, 9TH December, 1872.

SIR,—The Time Ball at the Observatory on Fort Howe has been regularly dropped every day, except on Sunday, giving the true time at 1 o'clock for this longitude, affording an excellent opportunity to ship-masters and others interested in true time to correct their chronometers and timepieces.

This duty has been attended to during the entire year with the exception of three days in succession, namely, Saturday the 6th, Monday the 8th, and Tuesday the 9th of January, when, owing to a severe rain storm, succeeded by frost, the ball could not be hoisted on account of the ice on the guide rods of the ball.

Its contemplated removal to the top of the Custom House meets with general approval, as it will then be in a more central position, and more available for the general public.

I have the honor to be, Sir,

Your most obedient Servant,

GEORGE HUTCHISON, JUN.,

Director of Time Ball at St. John, N.B.

To WM. SMITH, Esq.,

Deputy of Minister of Marine and Fisheries,
Ottawa.

STATEMENT of Expenditure on Account of Observatory, Fort Howe, New Brunswick, for Fiscal Year ended 30th June, 1872.

		\$ cts.	\$ cts.
G. Hutchison.....	Twelve months' salary as Director.....	500 00	
G. McAuley.....	do do Caretaker.....	104 00	
T. M. Reid.....	Sponge.....	1 15	
R. P. Starr.....	Coal.....	9 50	
J. Walker & Co.....	.....	9 73	
J. Livingston.....	Advertising.....	4 10	
M. Jones.....	Twelve months' rent of site to 30th April.....	6 07	
			634 55

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

Department of Marine and Fisheries,

Ottawa, 2nd January, 1873.

APPENDIX No. 20.

REPORT OF THE SHIPPING MASTER FOR THE PORT OF QUEBEC FOR
THE FISCAL YEAR ENDED 30TH JUNE, 1872.

QUEBEC, 17th December, 1872.

SIR,—I have the honor to submit my Annual Report as Shipping Master for the port of Quebec for the fiscal year ended 30th June last. In doing so, I would beg leave to notice that the number of desertions of seamen from their vessels during the fiscal year of 1872 has but very slightly increased, notwithstanding that a much larger number of ships arrived in port during that year than in either of the two previous years; as well as the fact that the ships detained in port and in the River St. Lawrence last winter, and new ships, were principally supplied by deserters on the arrival of the spring fleet.

The number of desertions of seamen for fiscal year 1870	was	1,433
do	do	1871
do	do	1872
		1,419
		1,564

The number of seamen shipped from 1st July, 1871 to 30th June, 1872, inclusive, was	2,127
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From which deduct the crews of ships registered at Quebec, also seamen who engaged but did not join their vessels, and whose substitutes were shipped without paying fees	433
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Total number shipped paying fees	1,694
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Number of British vessels that shipped seamen during above period	296
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Number of Colonial ships	do	do	61
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Number of Quebec Registered ships	do	do	49
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Number of new ships	8
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Total	414
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Number of vessels which paid no fees, consisting of Quebec registered ships	49
---	----

New ships	8
-----------	---

Total	57
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Number of seamen discharged paying fees	612
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Number of shipwrecked seamen discharged against whom no fees were charged	363
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Total number discharged	975
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Fees received from 1,694 seamen shipped at \$1 each	\$1,694 00
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Fees received from 612 seamen discharged	298 31
--	--------

Fees received for 344 certificates at 50 cents each	172 00
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	\$2,164 31
--	------------

Disbursements as per accounts rendered	124 90
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Lodged in Bank of Montreal to credit of Receiver-General	
--	--

	\$2,039 41
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I have &c.

R. H. RUSSELL,

Shipping Master, Quebec.

APPENDIX No. 21:

REPORT OF SHIPPING MASTER FOR THE PORT OF ST. JOHN, N. B.,
FOR FISCAL YEAR ENDED 30TH JUNE, 1872.

SHIPPING OFFICE, ST. JOHN, N. B., February 17th, 1873.

SIR,—I have the honor to enclose a statement of the Income and Expenditure of the Shipping Office at the port of St. John, N. B., for the year ending the 30th June, 1872.

The number of men shipped and discharged during the past year, as per statement, numbered 3,962 against 4,471 for the previous year, being a decrease of 509 men.

The number of seamen at the port for the year has been above the average, and wages have ruled very high, runs having averaged \$60.50 against \$55.00 for 1870-71, and \$45.00 for the year 1869-70.

Monthly wages have also increased, averaging for the year \$25.25; the advance in this class has been mainly owing to the increased number of vessels in the coasting trade.

I am, &c.,

ALLAN McLEAN,

Shipping Master.

The Honorable PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

STATEMENT of Income and Expenditure of the Shipping Office at the Port of St. John,
N. B., for the fiscal year ended the 30th June, 1872.

INCOME.				\$	cts.
Fees for shipping and discharging	417	men in July, 1861...		208	50
do	239	do Aug. do ...		167	50
do	311	do Sept. do ..		155	50
do	304	do Oct. do ..		152	00
do	398	do Nov. do ..		199	00
do	401	do Dec. do ..		200	50
do	191	do Jan. 1872..		95	50
do	176	do Feb. do ..		88	00
do	298	do March do ..		149	00
do	257	do April do .		128	50
do	402	do May do ..		201	00
do	468	do June do ..		234	00
	3,962			1,981	00

EXPENDITURE.		
Paid Assistant, and Incidental Expenses.....		1,258 97
Net income of office.....		722 00

ALLAN McLEAN,

Shipping Master.

SHIPPING OFFICE, ST. JOHN, N. B.,
February 17th, 1873.

APPENDIX No. 22.

REPORT OF CHAIRMAN OF BOARD OF STEAMBOAT INSPECTION FOR
YEAR ENDED 31st DECEMBER 1872.

BOARD OF STEAMBOAT INSPECTION,
CHAIRMAN'S OFFICE, TORONTO,
9th January 1873.

SIR,—I have the honor to submit to you, for the information of the Hon. the Minister of Marine and Fisheries, my annual Report for the year ended 31st December 1872.

Meetings of the Board of Steamboat Inspection were held at the following places for the examination of applicants for certificates as Engineers, and for the renewal of certificates to Engineers who had previously qualified :—

St. John, N.-B.,	on Sept. 9th, 10th and 11th.
Fredericton, "	on " 13th.
Halifax, N.-S.,	" 17th.
Pictou, "	" 19th.
Quebec, P. of Q.,	" 24th, 25th, 26th and 27th.
Sorel, "	" 28th and 30th.
Montreal, "	Oct. 1st, 2nd and 3rd.
Ottawa, Ont.	" 4th and 5th.
Kingston, "	Nov. 26th, 27th and 28th.
Toronto, "	" 29th and 30th.
Windsor, "	Dec. 3rd, 5th and 6th.
Hamilton, "	" 9th and 10th.
St. Catharines, Ont.	" 11th, 12th, 13th and 14th.

During the year ended 31st December 1872 there have been issued 741 certificates to Engineers, being 116 in excess of the number issued for the year 1871, and 240 in excess of 1870. The certificates are classed thus :—

First class	Engineers.....	50
Second	" "	125
Third	" "	139
First	Assistant-Engineers	142
Second	" "	175
Third	" "	109
Total.....		741

Of the 741 certificates granted to applicants, 253 were the result of examination, and 79 of this latter number were granted by individual local inspectors confirmed by the Chairman.

The annual meeting of the Board of Steamboat Inspection under the provisions of the third section of the Steamboat Inspection Act was held at Ottawa on the 4th of October. All the Inspectors were present. Except the examination of applicants for the office of Inspector of Steamboats for the District of Montreal, in the room of the late Mr. Thomas Fessenden, no special subject was brought before the Board. The accompanying returns from the several Inspectors of Steamboats in the Dominion shew the number of steamboats inspected by each, their names, port of inspection, names of collectors, their tonnage, and the amount paid on account of the Inspections.

This Return exhibits a total of 473 steamers classified thus :—

	Number of Steamers.	Paddle Steamers.	Screw Steamers.	Tug Steamers.	Passenger Steamers.	Freight Steamers.
West Ontario Huron and Superior District.....	146	37	109	66	62	18
East Ontario.....	77	51	26	40	32	5
Montreal.....	60	32	23	31	18	11
Three Rivers.....	42	40	2	22	19	1
Quebec.....	75	51	24	42	26	7
New Brunswick and Nova Scotia.....	73	43	30	29	35	9
	473	254	219	230	192	51

Eighteen steamers have been reported lost or broken up during the year 1872, a statement of which is appended.

Seventy-one steamers were added to the Dominion during the year, viz :—

	Steamers.	Paddle.	Screw.	Tug.	Passenger.	Freight.	Gross Tonnage.
Quebec.....	10	6	4	4	4	2	6 700 55
Three Rivers.....	5	5	0	5	0	0	448 00
Montreal.....	2	2	0	0	1	1	604 00
East Ontario.....	9	6	3	4	3	2	1 664 00
West Ontario.....	32	3	29	16	12	4	6 655 00
Nova Scotia and New Brunswick.....	13	5	8	7	5	1	1 977 00
Total.....	71	27	44	36	25	10	18 048 55

The following statement from the Inspectors have reference to accidents that have occurred on board steam vessels in the Dominion during the year, whereby life has been lost or endangered. They also have reference to cases of neglect of duty or drunkenness among engineers. Two cases only of drunkenness were reported, the delinquents in both of which paid the penalty by the loss of their certificates. The record of lives lost number 15, the most serious that has occurred for several years past. Eight of these were lost on the propeller *Mary Ward*, late in November, in a gale of wind off Collingwood. The men were lost in trying to make shore in a small boat. The attention of the Department has been directed by the Board to the insufficient number of boats provided on passenger steamers under the provisions of the Steamboat Inspection Act. In the case of the steamer *Emperor*, lost between Portland, United States, and Yarmouth, Nova Scotia, many lives were endangered for want of sufficient boats. Had the weather been otherwise than calm, great loss of life would doubtless have resulted.

It is thought that the provisions of the 31st section of the Steamboat Inspection Act, by which the Governor in Council may, by Order in Council, prescribe and regulate the number of passengers carried on steamboats, might apply in such case that by limiting

the number of passengers in a certain proportion to the number of boats carried on steamers the evil complained of could be remedied. The complaint would also apply with equal force to the Lake Superior steamers which are very deficient in this respect.

Some inconvenience has been felt with respect to the mode of carrying boats on car ferry steamers, and the inconvenience also of carrying the complement of life preservers required by Law. It was thought that the Steamboat Inspection Act might be amended so as to exclude car ferry steamers crossing narrow channels less than a mile in width from these equipments. The opinion of the most experienced masters of this class of vessels, which has been forwarded to the Department, is strongly adverse to abandoning their boats and being at the mercy of the water alone; it being shewn that for want of boats serious loss of life has occurred on vessels actually lying at the wharf, as in the case of the steamer *Windsor* at Detroit; the fire being between those on board of the steamer and the wharf 17 men were driven overboard and the drowned. In view of such danger, it would not in my opinion be prudent to make any change in the law in this respect.

WEST ONTARIO, HURON AND SUPERIOR DIVISION.

Steamer *Dalhousie*, burnt off Oak Orchard, Lake Ontario—total loss; passengers and crew saved. *Mary Ward*, driven ashore off Collingwood, on the 25th of November; eight men were lost in trying to make shore in a small boat; vessel total loss.

Mary R. Robertson, burnt at Saginaw. No lives lost. Vessel since raised and repaired.

Steamer *Manitoba* ran ashore at the east end of Michipicoten Island in a fog and sank—no lives lost.

Steamer *Georgian* endangered by fire from a coal oil lamp in the lamp room.

Mr. Eli Gilbert, of the screw steamer *Careilla*, on Lake Simcoe, fell overboard and was drowned. It is supposed that he was asleep at the time.

Isaac Davis, Engineer of the steamer *Francis Smith*, of Owen Sound, was accidentally killed in the crank room by the movement of the engine while the vessel lay at the wharf.

Steamer *Lake Michigan* lost her rudder off Grand Haven, Lake Michigan, in a gale of wind blowing inshore. Through the steadiness of the engineer, who stood by and backed his engine until she could be relieved by a tug from the shore, the vessel was saved.

Steamer *Silver Spray* broke her engine beam on the 30th November, carrying away the cylinder head. The vessel was towed into Owen Sound by the *Algoma*. No lives lost.

Steamer *Acadia*, on July 4th, broke her crank pin.

EAST ONTARIO DIVISION.

Passenger steamer *St. Helen*, on the 2nd May, 1872, broke her rudder chain, and ran aground on a shoal at the foot of the Cedar Rapids on her first trip to Montreal. Passengers crew and cargo were safely landed; but the vessel after several attempts to remove her has been abandoned.

Passenger steamer *Kingston*, on the 11th of June, on her trip west, was destroyed by fire 18 miles above Brockville. She was beached on Grenadier Island, and by the use of life preservers the passengers and crew were safely landed, with the exception of one lady who jumped from the stern of the vessel, having on a life preserver improperly adjusted, and a boy belonging to the steamer. The fire is supposed to have commenced in a stateroom in the upper saloon; vessel, cargo and baggage an entire loss.

On the 13th of October, the new propeller *China* took fire on her trip west, about 18 miles from Kingston. The crew were taken off by the propeller *America*. Vessel and cargo total loss. The fire is believed to have originated in the vicinity of the boiler.

A few accidents to the machinery of steamboats were reported during the season, merely involving slight detention whilst the necessary repairs were being executed.

MONTREAL DIVISION.

Steamer *Lawrence* burnt, on her way from Montreal to Chambly, 20th November; total loss. One of the crew lost. No misconduct or neglect of duly reported among engi-

neers in this division, or in that of Three Rivers, both of which districts have been under the inspection of Mr. Befort, since the death of the late Mr. Fessenden.

No accidents are reported in the Three Rivers District.

QUEBEC DIVISION.

Tug steamer *Phoenix*, on the 28th of May, burnt in coming down with a raft. One life lost. Fire broke out in the lamp room, and she was run ashore at Batiscan.

Steamship *Gaspé*, in going to St. John's, Newfoundland, ran ashore in a dense fog and broke up next day. No cases of drunkenness to report.

NEW BRUNSWICK AND NOVA SCOTIA DIVISION.

There have no accidents occurred whereby life was lost. When the steamer *Emperor* was lost on her passage to Portland, U. S., to Yarmouth, U. S., on the night of the 28th May, 1872, the lives of the passengers were endangered, owing to there being more passengers on the steamer than the small boats were sufficient to accommodate with safety. There was one boat of 17 feet length keel on the steamer at the time, more than the law requires, and as it was quite calm by great care the passengers were landed in safety.

There have been no cases of neglect of duty or drunkenness reported against the engineers in this District during the year ended 31st Dec. 1872.

I have, &c.,

SAM. RISLEY, *Chairman,*
Board of Steamboat Inspection.

LIST OF STEAM VESSELS INSPECTED IN WEST ONTARIO AND LAKE SUPERIOR DIVISION, FOR THE YEAR ENDING 31st Day, 1879.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Registered Tonnage.	Tonnage From Lakes & Rivers.	Date of Payment.	Remarks.
Norseman	Port Hope	Whitehead	April 1	295	\$ 74	March 30	From str., Port Hope and Rochester
City of Toronto	Niagara	Kirby	do 16	403	307	do 30	do Port Hope and Niagara
Osprey	Hamilton	Kittson	do 23	375	199	do 30	Freight str., Hamilton and Montreal
Acadia	do	do	do 23	339	217	do 24	Freight str., Port Hope and Montreal
Bruno	do	do	do 24	339	236	do 23	do do do
Chicora	Collingwood	Watson	May 2	415	372	May 18	From str., Lake Superior route
Cumberland	do	do	do 2	418	229	do 29	do do do
Geo. Watson	do	do	do 2	28	28	do 4	do do do
Argyle	Dundas	McGregor	do 7	121	82	do 2	From str., Hamilton and Hamilton
Nipissing	Graenhurst	J. E. Smith	do 9	94	52	do 2	do do Lake Huron
Wenonah	do	do	do 9	62	62	Nov. 23	do do do
Deane	do	do	do 9	7	7	do 23	do do do
Ranger	Lindsay	Whitehead	do 13	53	40	June 1	do do do
Commodore	do	do	do 13	109	95	do 1	Hamilton Tug, Lake Huron
Champion	do	do	do 13	82	72	do 1	From str., Hamilton Tug, Lake Huron
Novelty	do	do	do 13	67	57	do 1	do do do
Victoria	do	do	do 13	194	83	May 14	do do do
Ogemah	do	do	do 13	102	75	do 14	do do do
Mary Ellen	do	do	do 13	31	13	do 12	do do do
Ontario	do	do	do 13	38	21	do 12	do do do
Bouquet	Toronto	Smith	do 6	35	24	May 11	Hamilton Tug, Toronto
Princess of Wales	do	do	do 6	191	157	do 6	do do do
Nettie Grew	Collingwood	Watson	April 22	94	58	April 30	do do do
Dromedary	do	do	May 17	30	30	do 30	do do do
Lake Michigan	Hamilton	Kittson	do 17	188	96	May 4	Hamilton Tug, Collingwood
Agnes McMahon	St. Catharines	Clark	do 20	219	174	May 30	Freight prop., Chicago and Montreal
Maid of Midland	do	do	do 21	265	310	June 14	Freight prop., Chicago and Montreal
Silver Spray	Collingwood	Smith	do 28	12	12	do 23	Welland Canal Tug.
Fred Hutchings	do	Watson	do 28	173	142	Aug. 1	From str., Port Huron
Minnie Hall	do	do	do 28	15	9	May 23	do Collingwood and Owen Sound
Watohman	do	do	do 28	47	47	do 29	do do do
Algonia	do	do	do 28	15	13	do 30	do do do
Algonia	do	do	June 13	757	623	do 3	From str., L. Superior & Georgian Bay.

G. L. Stoddard...	Windsor	June 14	12	12	1 20	5 June	6 20	River Tug, Wallaceburg, Ontario.
Bob Hackett...	do	do 10	72	52	7 20	5 April	12 30	Pass. prop., Windsor and Ft. Pelee.
Beaver	do	do 6	42	17	9 20	5 June	13 30	Wood Barge, Wallaceburg.
Coral	do	do 6	93	58	9 30	5 do	14 30	do
Crow	do	do 6	91	77	9 10	5 do	13 10	do
Ontario	Hamilton	do 6	82	53	8 20	5 Aug.	18 13	Pass. Ferry, Hamilton and the Beach.
Lake Ontario	Port Dalhousie	July 13	375	310	37 50	8 July	15 45	Freight prop., Chicago and Montreal.
Isaac May	do	do 17	592	490	59 20	5 do	16 30	Lumber Barge, Georgian Bay.
International	Port Edward	do 21	1052	952	105 20	8 do	113 20	Grand Trunk Car Str., Ft. Edward.
Minerva	Welland	Aug. 3	27	19	2 60	5 June	27 70	Welland Canal Tug.
L. N. G.	Port Robinson	do 2	16	7	1 60	5 Aug.	2 60	do
M. R. King	do	do 2	25	25	2 50	5 Nov.	29 70	do
Florence	Sarnia	do 9	108	73	10 80	8 June	21 10	Great Western Railway Ferry, Sarnia.
Sea Gull	do	do 9	51	51	5 10	5 do	21 10	Grand Trunk
Alex. Jones	do	do 8	22	22	2 20	5 do	21 70	do
W. J. Spicer	do	do 8	356	239	36 60	8 July	16 43	do
M. J. Mills	Port William	do 11	15	5	1 50	5 Not returned	16	Collector at Sault Ste. Marie.
Silver Spray	Silver Islet	do 11	130	91	13 05	5 July	18 05	Coasting Tug, Silver Islet, I. S.
Kamistagua	Port William	do 11	129	65	12 90	5 Not returned	16	Collector at Sault Ste. Marie.
Helen Grace	Silver Islet	do 11	55	45	5 50	5 Oct.	10 50	Coasting Tug, Port William, I. S.
Novelty	Killarney	do 11	178	178	17 80	5 Sept.	22 80	Lumber Barge, Killarney, G. Bay.
Great Western	Windsor	Oct. 16	1252	712	125 20	5 July	14 130	Great Western Car Boat, Windsor.
Vanderbilt	Port Perry	do 23	109	53	10 90	8 Aug.	2 18 90	Passenger steamer, Lake Scougog.
Anglo Saxon	do	do 23	47	39	4 70	5 May	19 90	do

LIST OF STEAM VESSELS INSPECTED IN THE Western Ontario Division, for the year ended 31st December, 1872.

L. Shickluna	Port Stanley	April 16	362	295	36 20	8 April	15	Screw, pass. & fr., Chicago & Montreal.
Georgian	do	do 16	448	345	44 80	5 do	15	freight, Pt. Stanley & Montreal.
Metamora	Amherstburgh	do 17	239	151	23 90	5 do	17	tug, Georgian Bay & Prescott.
Minnie Morton	do	do 17	28	18	2 80	5 do	17	tug, Detroit & St. Clair Rivers.
W. A. Routh	Port Colborne	do 20	49	43	4 90	5 do	20	tug, Pt. Colborne & Lake Erie.
Mary Ward	do	do 20	345	236	34 50	5 do	20	fr. & pass., Chicago & Montreal.
Clara M. Carter	do	do 20	29	23	2 80	5 do	20	tug, Pt. Colborne & Lake Erie.
Sylvester Neelon	do	do 20	46	28	4 60	5 do	20	do
East	St. Catharines	do 22	347	219	34 70	8 do	16	fr. & pass., Chicago & Montreal.
Scotland	do	do 22	371	300	37 10	8 do	23	do
America	do	do 22	331	302	33 00	8 do	23	do
Europe	do	do 23	370	307	37 00	8 do	23	do
Young Lion	Port Dalhousie	do 24	54	43	5 40	5 do	9	tug, Pt. Dalhousie & I. Ontario.
James Norris	do	do 24	47	41	4 70	5 do	4	do
Ocean	do	do 24	358	287	35 80	8 do	27	fr. & pass., Montreal & Chicago.
Dalhousie	do	do 25	353	280	35 30	8 do	25	freight, Chicago and Montreal.
Enterprise	do	do 25	564	491	56 40	8 do	25	fr. & pass. Pt. Dalhousie & Mont ^l
Minnie Parsons	St. Catharines	do 25	45	40	4 60	5 do	24	tug, Port Colborne & Lake Erie.
Argyle	do	do 25	355	286	35 50	8 do	29	fr. & pass., Montreal & Chicago.
City of London	Port Robinson	do 30	334	307	33 40	8 do	23	do
City of Chatham	Chatham	May 4	361	267	36 10	5 May	1	do
Dominion	do	do 6	178	117	17 80	8 do	6	Side wheel, pass., Detroit & Chatham.

APPENDIX No 22 Continued

STEAM VESSELS IMPROVED IN THE WESTERN DIVISION FOR THE YEAR ENDED 31st DECEMBER, 1879

Name of Vessel	Port of Inspection	Name of Contractor	Date of Inspection	(From Tonnage)	Residual Tonnage	Yearly Price	Inspection Remarks	Date of Payment	Totals	Remarks
Manitoba, of Chatham	Chatham	J. G. Pennefather	May 6	81	69	\$ 10	5	May 4	13 10	Screw, Freight, Chatham and Detroit
Bella Taylor	do	do	" 7	38	17	3 80	5	" 7	8 80	Screw, Tug, River Phoenix and Lake 84 Chain
City of Montreal	Toronto	James Clark	" 9	300	220	30 00	8	April 18	38 80	Screw, Freight and Passenger, Chatham and Montreal
John S. Clark	do	Chas. B. MacKay	" 11	33	13	3 30	5	May 10	8 30	Screw, Tug, Toronto Harbour
Frances Smith	Collingwood	W. A. Stephens	" 13	402	109	46 20	8	" 11	54 20	Side wheel, Passenger, Collingwood and Port William
S. S. Edsell	Toronto	Chas. B. MacKay	" 15	150	94	15 00	5	" 11	20 00	Screw, Tug, Toronto and Prescott
W. T. Robb	do	do	" 15	188	114	18 80	5	" 16	23 80	" " "
Colonel Strickland	Lakefield	M. J. Whitehead	" 22	57½	44	5 75	5	April 17	10 75	Side wheel, passenger, Henry and Chatham
Annie Reid	Port Hope	do	" 23	42 81	28 81	4 30	5	May 23	9 30	Screw, Tug, Port Hope & Lake Ontario
Manitoba, of St. Catharines	Sarnia	J. W. Verner	June 4	338	236	33 80	8	" 10	41 80	Side wheel, passenger, Sarnia and Port William
St. Clair	Rondeau	J. G. Pennefather	" 13	36	15	3 00	5	July 8	8 00	Screw Tug, Rondeau, Tonding Produce
Wm. Hall	do	Wm. Benson	" 12	56	31	5 00	5	May 11	10 00	" " "
P. E. McKerral	Chatham	J. G. Pennefather	" 13	116	77	11 80	5	June 13	16 80	Screw, Freight, Thames River & Lake Huron
Hero	do	Chas. Fraser	" 14	38	19	3 80	5	" 20	8 80	Screw, Tug, Detroit River and Lake 84 Chain
John C. Clark	Wallaceburg	do	" 14	174	68	17 40	8	" 14	25 40	Screw, Passenger and Freight, Wallaceburg and Sarnia
Philo Bennett	do	do	" 15	7	7	0 70	5	" 10	5 70	Screw, Tug, Rivers Hydenham and 84 Chain
City of Dresden	do	do	" 15	129	69	12 90	8	" 14	20 90	Screw, Passenger and Freight, Dresden and Detroit
River King	do	do	" 15	53	34	5 30	5	" 14	10 30	Screw, Passenger and Freight, Chatham and Sarnia
John S. Noyes	do	do	" 15	33 80	22	3 40	5	" 15	8 40	Screw, Tug, Detroit River and Lake 84 Chain

J. Holt.....	do	....	....	17	70	45	70 00	5	13	12 00	Screw, Passenger and Freight, Dresden and Sarnia.	
E. Windsor	do	....	....	17	68	37	6 80	5	14	11 80	Screw, Tug & Freight, River Sydenham.	
Reindor	do	....	....	17	35	23	3 50	5	15	8 50	Screw, Tug and Freight, Chatham and Detroit.	
Thames	Chatham	J.G. Pennefather	....	14	40	30	4 00	5	8	9 00	Screw, Tug and Freight, Chatham and Detroit.	
Beaver	Wallaceburg	Chas. Fraser	....	17	52	39	5 20	5	June	12	10 20	Screw, Tug and Freight, River Sydenham.
Kincardine	Toronto	Chas. B. Mackay	....	24	175	132	17 60	8	25	25 60	Screw, Freight, Bay Quinte & Oswego.	
Mary R. Robert	Chatham	J.G. Pennefather	....	24	367	243	36 70	5	29	41 70	Screw, Freight, Collingwood & Chicago.	
Okouira	Owen Sound	W. A. Stephens	July	17	36	10	3 60	5	July	12	8 60	Screw, Passenger and Freight, Owen Sound and Colpoys Bay.
Isabella	Belle Ewart	....	....	25	....	....	....	....	....	....	Screw, Tug, Lakes Simcoe, not registered, 4 years old.	
Emily May	do	Chas. B. Mackay	....	26	181	104	18 10	8	May	27	26 10	Side wheel, Passenger, Lake Simcoe.
Emily Dunham	do	do	....	26	32	32	3 20	5	"	13	8 20	Side Ferry, Belle Ewart & Roach's Point.
Simcoe	Orillia	do	....	26	26	26	2 60	5	Aug.	1	7 60	Screw, Tug, Lakes Simcoe and Conchiching.
Advance	do	do	....	26	41	26	4 10	5	May	11	9 10	Screw, Passenger and Freight, "Conchiching."
Carriella	do	do	....	26	29	19	2 90	5	July	29	7 90	Side wheel, Passenger & Freight, Lakes Simcoe and Conchiching.
Ida Burton	do	do	....	27	54.45	20	5 48	5	"	29	10 48	Screw, Tug, Lakes Simcoe and Conchiching.
Victoria	Belle Ewart	do	....	30	64	39	6 40	5	May	27	11 40	Screw, Tug, Georgian Bay, Timber and Vessels.
Lily Kerr	Waubesaene	do	....	29	58	26	5 80	5	June	4	10 80	Screw, Tug, Matchedash Bay and Sturgeon Bay.
Prince Alfred	do	do	....	29	19	10	1 90	5	Sept.	14	6 90	Screw, Tug, Holland River, Timber.
G. S. Hathaway	Belle Ewart	do	Aug.	1	14	8	1 45	5	May	11	6 45	Screw, Passenger and Freight, Quebec and Chicago.
Canada	Hamilton	W. H. Kitson	....	6	353	267	35 30	8	Aug.	8	43 30	Side wheel, Ferry in Burlington Bay.
Transit, of Toronto	do	do	....	7	82	53	8 20	5	"	18	13 20	Screw, Passenger and Freight, Chicago and Kingston.
Lincoln	St. Catharines	J. B. Denson	....	15	378	335	37 80	8	"	16	45 80	Screw, Lake Huron, Fishing purposes.
Susan C. Doty	Goderich	D. Doty	....	29	21	17	1 70	5	June	4	6 70	Screw, Passenger and Freight, Sarnia and Saugceen.
Wm. Seymour	do	do	....	29	77	46	7 70	5	"	4	12 70	Screw, Freight, shore of Lake Huron.
Herald	do	do	....	30	102	84	10 20	8	April	18	18 20	Screw, Tug, Goderich Harbour, Dredge Tender.
T. R. Second	do	do	....	29	18	14	1 80	5	Aug.	29	6 80	"
E. B. McPherson	do	do	....	30	29	26	2 90	5	June	4	7 90	"
Transit, of Windsor	Windsor	Wm. Denson	Sept.	4	759	327	75 90	8	July	16	83 90	Screw, Ferry and Car Boat, Windsor and Detroit.
Union	do	do	....	9	1190	999	119 03	8	"	16	127 00	Side wheel, G. W. R. Ferry, Windsor and Detroit.
W. S. Ireland	Chatham	J.G. Pennefather	....	18	104	62	10 40	5	Sept.	19	15 40	Screw, Tug and Freight, Rivers Thames and Detroit.

STEAM VESSELS inspected in the West Ontario Division, for the year ended 31st December, 1872.—Continued.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
Minnie Battle ..	Chatham	D. Doty	Sept. 19	24.56	14.62	\$ 2.50	\$..	5 June 4	\$ 7.50	Screw, Tug, Mouth of Thames, Dredge Tender.
Georgiana	Dunnville	W. A. Macrae	Oct. 10	64	40	6.40	5	5 Oct. 2	11.40	Side wheel, Tug and Freight, Buffalo and Dunnville.
Wm. Ross	do	James McCoppin ..	" 10	11	9	1.10	5	5 June 8	6.10	Screw, Tug, Welland Canal and Grand River.
Aln	Harwood	George Perry ..	" 16	35	.....	3.50	5	" "	8.50	Side wheel, Passenger and Freight, Rice Lake.
Clyde	do	do ..	" 18	40	.....	4.00	5	5 Oct. 24	9.00	Side wheel, Freight and Tug, Rice Lake.
Otonabee	do	do ..	" 17	84	23	8.40	5	5 June 14	13.40	" " " "
Forest City	do	do ..	" 17	79	.....	7.90	5	" " 14	12.90	" " " "
Whistle Wing ..	do	Chas. Perry	" 19	31	17	3.10	5	5 Sept. 7	8.10	Side wheel, Passenger and Freight, Peterboro and Harwood.
Niagara	Brighton	George Perry ..	" 21	6	.....	0.60	5	5 June 28	5.60	Screw, Tug, Brighton, Dredge Tender.
Minnie Walker ..	Southampton ..	R. McIntosh ..	" 31	19	.....	3.80	5	5 Dec. 28	8.80	Screw, Tug, Dredge Tender, Southampton.
S. R. Norcross ..	Goderich	D. Doty	Nov. 1	22	.....	2.20	5	5 July 13	7.20	Screw Tug, Dredge Tender, Goderich.
Rescue, Gun Boat	Port Dalhousie ..	.....	" 12	272	.....	27.20	5	5 Sept. 30	16.90	Screw, Double in Dominion service.
Sprague	Not inspected ..	.....	" 12	119	90	11.90	5	" "	16.90	Screw, Tug, Temagami, U.S. & Port Rowan.
Messenger	do ..	J.G. Pennfather ..	" ..	11	11	1.10	5	" 21	6.10	Screw, Barge and Tug, Mitchell's Bay, Lake St. Clair.
Perry	do ..	.....	" ..	414	.....	4.15	5	" ..	9.15	Screw, Tug, River Thames.
Sam Perry	do ..	.....	" ..	42	.....	.....	.....	" ..	.....	Screw, Tug, Port Dalhousie and Lake Ontario.
Jessie	do ..	.....	" ..	115	67	.....	.....	" ..	.....	Screw Tug, Dunnville and Lake Erie.

LIST OF STEAM VESSELS inspected in the East Ontario Division for the year ended 31st December, 1872.

Hiram A. Calvert	Garden Island ..	W. B. Simpson	April 11	369	163	30.90	5	5 April 13	35.90	Side wheel, Tug, Lake Ontario & River St. Lawrence.
John A. MacDonald	do ..	do ..	" 11	263	119	26.80	5	" 13	31.80	Side wheel, Tug, between Montreal and Quebec.

America.....	do	do	11	221	109	22 10	5	13	27 10	Side wheel, Tug, on Lake St. Lewis, Quebec.
Wellington.....	do	do	16	400	221	40 00	5	13	45 00	" " between Hamilton & Quebec.
City of Hamilton	do	do	16	224	120	22 40	5	13	27 40	Side wheel, Tug, between Bay of Quinte and Montreal.
William.....	do	do	16	267	109	26 70	5	13	31 70	Side wheel, Tug, between Lake Ontario and Quebec.
Rochester.....	Kingston	do	20	232	125	23 20	8	23	31 20	Side wheel, Passenger, between Bay of Quinte and Lake Ontario.
Robert Anglin..	do	do	24	105	68	10 50	5	22	15 50	Screw, Freight and Tug, between Rideau Canal and River.
Indian.....	do	do	25	308	103	30 80	5	25	35 80	Screw, Freight and Tug, Chicago and Montreal.
C. Lyle.....	do	do	26	115	75	11 50	5	22	16 50	Screw, Freight and Tug, Rideau Canal and St. Lawrence.
Ross.....	do	do	26	121	92	12 10	5	22	17 10	Side wheel, Passenger, Hamilton and Montreal.
Spartan.....	do	do	26	424	264	42 40	8	26	50 40	Side wheel, Passenger, Kingston and Cape Vincent.
Watertown.....	do	do	27	154	103	15 40	8	27	23 40	Side wheel, Passenger, Hamilton and Montreal.
Corinthian.....	do	do	29	374	220	37 50	8	29	45 50	Screw, Tug, Kingston Harbour.
John Bright...	do	do	30	30	14	3 00	5	30	8 00	Side wheel, Passenger, Trenton and Montreal.
St. Helen.....	do	John S. Clute..	May	269	79	26 90	8	April	34 50	Screw, Passenger and Freight, Chicago and Montreal.
China.....	do	W. B. Simpson	"	355	259	35 50	8	May	43 50	Screw, Tug, Kingston and Quebec.
St. Lawrence...	Portsmouth	do	3	244	107	24 40	5	"	29 40	Screw, Tug, River St. Lawrence.
Glide.....	Kingston	do	3	61	20	6 10	5	"	11 10	Side wheel, Passenger, Ports in Bay of Quinte.
Bay of Quinte..	Garden Island	do	4	250	150	25 00	5	April	30 00	Screw, Tug, on Bay of Quinte.
Prince Edward.	Bellefleur.	Anthony Dixon.	"	72	27	7 20	5	"	12 20	Side wheel, Passenger, Ports in Bay of Quinte.
Pictou.....	do	John S. Clute..	"	248	76	24 80	8	May	32 80	Screw, Tug, on Bay of Quinte.
Ellen Jeffers...	Bellefleur	Anthony Dixon.	May	33	14	3 30	5	May	8 30	Side wheel, Passenger, Ports on Bay of Quinte.
Quail.....	do	John S. Clute..	do	7	25	3 40	5	April	8 40	Side wheel, Passenger, Ports on Bay of Quinte.
Canada.....	Kingston	W. B. Simpson.	do	13	81	13 10	5	May	13 10	Side wheel, Passenger, Ports on Bay of Quinte.
Maud.....	do	do	do	14	46	12 10	5	do	13 10	Side wheel, Passenger, Ports on Bay of Quinte.
H. M. Mixer...	do	do	do	15	9	2 10	5	do	7 10	Side wheel, Passenger, Ports on Bay of Quinte.
Simon Davis...	do	do	do	15	24	2 40	5	do	7 40	Side wheel, Passenger, Ports on Bay of Quinte.
Pierrepoint...	do	do	do	17	149	14 90	8	do	22 90	Side wheel, Passenger, Ports on Bay of Quinte.
Louise.....	do	A. Delisle.....	do	21	157	15 70	8	May	23 70	Side wheel, Passenger, Ports on Bay of Quinte.
Kitty Friel...	do	W. B. Simpson.	do	22	65	6 50	5	do	11 50	Side wheel, Passenger, Ports on Bay of Quinte.
Grenville.....	do	do	do	21	11	2 20	5	do	7 20	Side wheel, Passenger, Ports on Bay of Quinte.
Nile.....	do	do	do	1	89	8 90	5	do	13 90	Side wheel, Passenger, Ports on Bay of Quinte.
Jessie Abley...	Mill Point	John Benson..	do	3	41	4 20	5	June	9 20	Side wheel, Passenger, Ports on Bay of Quinte.
Jessie Casals...	Aylmer	Duncan Graham	do	6	265	26 50	8	May	34 50	Side wheel, Passenger, Ports on Bay of Quinte.
Forest Queen...	Fernbrook	do	do	7	251	25 10	5	do	30 10	Side wheel, Passenger, Ports on Bay of Quinte.
Enterprise.....	Carlton Place.	do	do	10	41	4 10	5	do	9 10	Side wheel, Passenger, Ports on Bay of Quinte.

STEAM VESSELS INSPECTED IN THE EAST: Data of Division, for the year ended the 31st December, 1872.—Continued.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Taxes.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
Lady Franklin.	Kingston.	W. B. Simpson.	do	12	33	20	\$ etc.	April 29	\$ etc.	Screw Tug, Kingston and St. Lawrence
Gazelle or Raftsmen.	do	do	do	16	94	41	3 30	June 14	8 50	Side wheel, Ferry between Kingston and Wolfe Island
Athenian.	Charlotte, N. Y.	do	do	27	1,083	706	9 40	do 25	116 70	do Pass, between Lake Ontario and Prescott.
Abyssinian.	do	do	do	27	1,044	720	108 30	do 25	112 40	Side wheel, Pass, between Lake Ontario and Prescott.
Champion.	do	do	July 3	373	127	37 30	8	do 25	43 30	Screw Pass, Hamilton and Montreal.
Elewood.	Kingston.	do	do 13	25	7	2 30	5	May 10	7 30	Screw Tug, Ports on Rideau Canal.
Eleanor.	do	do	do 17	22	10	2 30	5	do 7	18 70	do do do
Bruce.	Brockville.	George Easton.	do 23	107	87	10 70	8	July 21	13 70	Side wheel, Ferry, between Brockville and Moristown.
St. Jean Baptiste.	Prescott.	B. D. Jessup.	do 21	116	73	11 60	8	do 23	19 60	S. wh. Ferry, Prescott & Ogdensburg.
Queen Victoria.	Ottawa.	A. Delisle.	do 24	217	61	21 70	8	May 11	29 70	Screw Pass, Ottawa and Grenville.
Alexandra.	do	do	do 24	263	94	36 50	8	do 11	41 50	do Tug, do do
Rover.	do	do	do 24	114	25	11 40	5	do 10	16 40	do do Ports on Ottawa River.
Hull.	do	Duncan Graham.	do 25	49	49	9 90	5	June 22	14 90	do Pass, do do
Jess.	Ottawa.	do	do 25	83	3	0 90	5	May 14	5 90	Screw Tug, Rideau Canal and Ottawa.
Mac.	do	do	do 26	107	21	10 70	8	June 1	18 70	S. wh. Pass, Gatineau & New Edinburgh
England.	Hull.	do	do 27	142	54	14 20	6	do 3	19 20	do Tug, Ottawa and Grenville.
Victoria.	Ottawa.	A. Delisle.	do 29	106	67	10 60	8	May 11	13 60	do Pass, do do
Lincoln.	do	do	do 29	82	43	8 20	5	do 10	18 20	Screw Tug, Ports on Ottawa River and Rideau Canal.
Swan.	do	Duncan Graham.	do 30	36	30	3 90	5	do 29	8 90	do Tug, Ottawa and Chaudière.
Norfolk.	Pictou.	John P. Clute.	August 5	70	42	7 00	5	Aug. 28	13 00	Side wheel, Pass, on day of Quinte,
Monitor.	Aylmer.	do	do 8	144	58	11 40	9	June 29	19 40	Tug, Pictou Lake.
Emerald.	Rocky Point, Du-chene Lake.	Duncan Graham.	do 9	90	68	9 00	5	May 17	14 00	do do do
Chaudière.	Aylmer.	do	do 9	242	56	24 20	5	do 17	29 20	do do do
Snow Bird.	Portage du Fort.	do	do 10	62	45	6 20	5	do 17	11 20	do do do
Prince Arthur.	do	do	do 10	239	169	23 90	8	do 17	31 90	Pass, do do
Sir John Young.	Havelock.	do	do 10	158	56	15 80	8	do 17	23 80	do do do
Oregon.	Portage du Fort.	do	do 12	75	70	7 50	5	do 17	12 50	Tug, Chaudière Lake.
Alliance.	do	do	do 12	191	157	19 10	5	do 17	24 10	do do do
Jason Gould.	Cobden.	do	do 12	37	22	3 70	5	do 17	8 70	Pass, Musk Lake.

Kipawé	Tait's Landing, Des Joachim.	do	13	43	31	4 30	5	do	17	9 30	do	Des Joachim River.
Pembroke	do	do	14	62	57	6 20	5	do	17	11 20	do	do
Allumette	Havelock	do	19	22	5	2 50	5	June	14	7 50	do	do
Eva	W. B. Simpson.	Sept.	2	7	3	1 20	5	Sept.	2	5 70	Screw, Pass., Upper St. Lawrence.	
Starling	Anthony Dixon.	do	7	6	3	1 20	5	do	3	6 20	do	Tug, Bay of Quinté.
Portsmouth	W. B. Simpson.	do	8	153	48	15 30	5	do	20	20 30	Screw, Freight and Tug, Rideau Canal and river.	
Norman	do	Oct.	1	151	112	15 10	5	Oct.	2	20 10	Screw, Freight, Bay of Quinté, and River St. Lawrence.	
Mary Ann	Duncan Graham	do	4	42	32	4 20	5	May	29	9 20	Screw, Tug, on Rideau Canal & River.	
John Egan	do	do	9	238	48	26 70	8	do	17	34 70	Side wheel, Pass., Allumette Lake.	
Deux Rivières	Poche Captain.	do	9	84	34	8 40	5	Oct.	16	13 40	Side wheel, Passenger, between Roch Captain and Deux Rivières.	
Water Lily	W. B. Simpson.	do	21	97	75	9 70	5	May	13	14 70	Screw, Freight and Tug, Rideau Canal and River.	

STEAM VESSELS inspected in Montreal Division, for the year ended 31st December, 1872.

No. 5 Elevator.	Montreal	W. Bleakly	April	18	95	9 50	5	June	4	14 50	Screw, Grain Elevator
No. 1 do	do	do	24	95	.....	9 50	5	do	4	14 50	do
No. 2 do	do	do	18	98	23	9 50	5	do	4	14 50	do
No. 3 do	do	do	18	95	.....	9 50	5	do	4	14 50	do
No. 4 do	do	do	18	95	.....	9 50	5	do	4	14 50	do
No. 5 do	do	do	18	95	.....	9 50	5	do	4	14 50	do
Cultivator	do	do	29	205	90	13 20	5	do	4	18 20	do
Bristol	Côte St. Paul	do	29	346	41	20 50	5	May	10	25 50	Side wheel, Tug, Lachine and Carillon.
Wren	do	do	29	346	277	34 00	5	do	2	39 00	Screw, Freight.
Dellade	do	May	1	57	15	5 70	5	June	1	9 50	Screw, Tug.
Peanharnois	do	do	1	45	17	4 50	5	do	25	24 50	Paddle, Passenger.
Cauchnawaga	do	do	2	165	44	16 50	8	May	2	43 20	Screw, Passenger and Freight.
Dominion	do	do	2	332	285	35 20	8	do	2	43 20	Screw, Tug.
John Brown	do	do	3	87	59	8 70	5	June	3	13 70	Screw Tug.
Maid of Canada	Côte St. Augustin	do	4	314	125	31 40	8	do	1	39 40	Ferry, Sidew., Montreal & St. Lambert
Alie	do	do	6	83	33	8 30	5	May	6	13 30	Freight, Side wheel.
Passport	do	do	7	346	184	34 60	8	do	2	42 60	Passenger and Freight, Side wheel, Montreal and Hamilton.
M. Stevenson	Côte St. Augustin	do	7	113	66	11 30	8	do	8	19 30	Passenger and Freight, Screw, Montreal and Moisie River.
Longueuil	do	do	8	308	189	30 80	8	June	4	38 80	Passenger and Freight, Side wheel, Montreal and Longueuil.
Fawn	do	do	9	83	30	8 30	5	do	4	13 30	Tug, Side wheel.
Relief	do	do	9	87	16	8 70	5	do	7	13 70	do
Charlotte	do	do	9	41	10	4 10	5	do	6	9 10	Tug, do
No. 4 Elevator	do	do	9	95	.....	9 50	5	do	4	14 50	Screw.
Cætor	W. Bleakly	May	9	92	40	9 20	5	May	29	14 20	Tug, Montreal and Lake Champlain.

LIST OF STEAM VESSELS INSPECTED IN THE MONTREAL DIVISION, &c.—Continued.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Total.	Remarks.
Victory	Montreal	W. Bleakley	May 21	42	16	\$ 4 20	\$ 5	do	28	Tug, Montreal and Kingston.
Arcle	do	do	do 9	104	61	10 40	5	do	28	Tug, Ferry.
Caroline	do	do	do 21	101	46	10 10	5	do	15 40	Freight, Montreal and Ottawa.
Oak	Hochelaga	do	do 23	92	21	14 20	5	do	15 10	Tug, Montreal and Lake Champlain.
City of Ottawa	Montreal	do	do 25	123	64	12 30	8	do	20 30	Passenger, Montreal and Cornwall.
Kingston	do	do	do 25	314	201	34 40	8	do	42 40	Passenger, mid-wheel, Montreal and Hamilton, burned.
Matilda	do	do	do 29	86	24	8 60	5	June 8	13 60	Tug, Montreal and Ottawa.
Magnet	do	do	do 29	427	148	42 70	8	May 2	50 70	Freight and passengers, Montreal and Hamilton.
Laprairie	do	do	do 29	342	168	34 20	8	July 11	42 20	Ferry, Montreal and Laprairie.
Corican	do	do	do 29	435	244	43 50	8	May 2	51 50	Freight and passengers, Montreal and Hamilton.
L. Renaul	do	do	do 24	336	127	33 60	8	do 25	41 60	Passengers, Montreal and Cornwall.
Dandy	do	do	do 3	27	12	2 70	5	do 28	7 70	Tug.
Allen	do	do	do 6	57	17	5 70	5	do 10	10 70	Tug, Montreal and Ottawa.
Engineer	do	do	do 16	37	9	3 70	5	Sept. 3	8 70	Tug.
Mink	do	D. Graham, Ott.	do 11	52	22	5 20	5	May 14	10 20	Tug, Montreal and Ottawa.
Plover	do	W. Bleakley	do 11	45	16	4 50	5	July 5	9 50	Tug, Montreal Harbour.
Brown	do	do	do 4	76	34	7 60	5	May 6	12 40	Freight, Montreal and Ottawa.
Messenger	do	do	do 5	28	18	2 80	5	July 2	7 80	Tug, Montreal Harbour.
Jennie	do	do	do 19	9	None.	30	5	Aug. 21	3 30	Tug, paddle.
British American	do	do	do 19	83		8 30	5	do 31	13 30	do
Albert	do	do	do 24	104		10 40	5	May 10	15 40	Tug, Montreal and Lake Champlain.
Laurence	do	do	do 25	133		13 30	5	July 25	18 30	do
Shickuna	do	do	do 25	57		5 70	5	do 25	10 70	do
Wood	do	do	do 31	97		9 70	5	May 10	14 70	do
Elfin	do	do	do 31	74		7 40	5	June 6	12 40	do
Mande	do	do	Aug. 1	133		13 30	5	June 11	23 30	Passenger steamer.
M. K. D.	do	do	do 5	108		10 80	5	July 25	15 80	Tug, Montreal and Ottawa.
H. F. Brown	do	do	do 5	101		10 10	5	June 6	15 10	do
Prince of Wales	Lachine	do	do 6	214	68	21 70	8	May 11	29 40	Passenger, Lachine and Carillon.
Peter	Hawkesbury	do	do 7	7	1	40	5	Aug. 16	5 70	Paddle ferry.
Cygnnet	Carillon	do	do 8	44	16	4 40	5	May 11	9 40	Tug, Carillon and Grenville.
Atlas	do	do	do 8	180	40	18 00	8	Aug. 5	26 00	do
Boston	Montreal	do	do 13	83	23	8 30	5	do 15	13 30	Tug, sidewheel.

LIST OF STEAM VESSELS inspected in Three Rivers Division, for the year ended 31st December, 1872.

York.....	do	do	do	do	16	351	195	35	10	5	do	26	40	10	Freight, screw, Montreal and Hamilton.
Montrealville.....	do	do	do	do	23	233	114	25	30	8	Sept.	16	33	30	Sidewheel, pass'rs, Montreal and Quebec.
Jaguar.....	do	do	do	do	23	141	55	17	10	5	May	11	22	10	Passengers, Montreal and Lake Carillon.
Aurora.....	Lachine	do	do	do	9	113	24	11	30	8	do	17	19	30	Ferry, Lachine and Chagnawaga.
LIST OF STEAM VESSELS inspected in Three Rivers Division, for the year ended 31st December, 1872.															
Jagna Tyler.....	Sorel	W. Bleakley	April	15	105	21	10	50	5	5	April	27	15	50	Sidewheel tug, Rivier.
Fre Fly.....	do	do	do	13	92	46	9	20	5	5	May	2	14	20	Passengers, St. Francis and Sorel.
Sorel.....	do	do	do	13	86	43	8	60	5	5	do	2	13	60	do
Berthier.....	do	do	do	16	86	43	8	60	5	5	do	10	12	60	Passengers, Montreal and Sorel.
Montreal.....	do	do	do	22	76	47	7	60	5	5	do	2	65	60	Tug, Montreal and Chambly.
Chambly.....	do	do	do	25	570	284	57	80	8	8	do	2	31	80	do
Albion.....	do	J. Campbell	do	25	248	76	23	80	8	8	do	2	31	80	Tug.
Trois Rivières.....	do	do	do	26	171	108	17	10	5	5	do	15	22	10	Passengers, Montreal and Three Rivers.
Terrebonne.....	do	Wm. Bleakley	do	26	503	225	50	30	8	8	do	2	27	30	do
New York.....	do	do	do	27	193	55	19	30	8	8	do	2	27	30	do
Richelieu.....	do	do	do	27	176	53	17	60	8	8	June	8	25	60	do
Canada.....	do	do	do	27	125	83	Free.	Free.	Free.	Free.	do	8	25	60	Montreal Trinity House.
Berthier.....	do	J. Campbell	do	27	144	19	14	40	8	8	May	23	23	40	Passengers, Montreal and Quebec.
Montreal.....	do	Wm. Bleakley	do	29	350	153	35	00	8	8	do	2	43	00	do
Quebec.....	do	do	do	29	114	29	11	40	5	5	do	10	16	40	Tug, do
Victoria.....	do	do	do	29	838	927	83	80	8	8	do	2	91	80	Chambly.
L'Assomption.....	do	do	do	May	1	114	27	40	5	5	do	10	32	40	do
Rivière du Loup.....	do	do	do	do	1	176	89	17	60	8	do	10	22	60	Passengers
L. Tourville.....	do	do	do	do	1	41	25	4	10	5	do	2	9	10	do
Canada.....	do	do	do	do	2	72	34	7	20	5	do	29	13	20	Tug, Sorel and Rivier du Loup.
Carillon.....	do	do	do	do	3	644	503	64	40	8	July	24	72	40	Tug, Quebec and Chambly.
Bismark.....	do	do	do	do	6	87	10	1	80	5	do	22	13	70	Passengers, Quebec and Montreal.
L. A. Senecal.....	do	do	do	do	10	18	32	6	90	5	do	10	16	80	Tug, Whitehall and Montreal.
John.....	do	do	do	do	10	69	32	6	90	5	do	22	13	90	Tug, stern paddles.
Castor.....	do	do	do	do	13	104	48	10	40	5	June	22	15	40	Screw tug, Sorel and Whitehall.
Boston.....	do	do	do	do	13	92	58	9	20	5	May	29	14	20	Sidewheel tug, Montreal and Whitehall.
MacKenonge.....	do	do	do	do	18	177	33	17	70	5	do	21	22	70	Tug, St. Francis and Chambly.
Dixie.....	Three Rivers	C. Godby	do	22	33	22	3	30	5	5	do	2	8	30	Tug, Montreal and Quebec.
Dore.....	do	do	June	3	185	Not known.	18	50	5	5	June	10	23	50	Passenger.
Monaselle.....	do	do	do	3	45	do	4	50	5	5	do	10	23	50	do
Laval.....	do	do	do	4	34	do	3	40	5	5	do	10	23	50	Ferry, St. Genevieve and Three Rivers.
St. Paul.....	do	do	do	4	66	do	6	60	5	5	do	4	11	60	Ferry, St. Maurice
Union.....	do	do	do	4	20	do	2	00	5	5	do	4	11	60	Ferry, Beaucour
Hope.....	Sorel	Wm. Bleakley	do	12	236	40	12	60	5	5	do	22	17	60	Ferry, St. Genevieve
Sorel.....	do	do	do	15	686	432	58	60	8	8	do	18	76	60	Tug, Montreal and Whitehall.
Champlain.....	do	do	do	22	83	18	8	30	5	5	May	10	13	30	Passengers, Quebec and Saguenay.
Abenakis.....	Sorel	do	do	24	117	47	11	70	5	5	June	22	16	70	Ferry, L'Écluse.
Vermont.....	do	Not paid	do	22	27	do	do	do	do	do	do	do	do	do	Tug, Montreal and Whitehall.
Marie.....	do	W. Bleakley	July	16	117	47	11	70	5	5	Aug.	15	16	70	Tug, St. Francis and Sorel.
Arthur.....	do	J.W. Dunscombe	Aug.	19	23	16	2	30	5	5	Sept.	24	7	30	Tug, Montreal and Chambly.
Champion.....	Three Rivers	C. Godby	do	20	15	7	1	50	5	5	Aug.	27	6	50	Tug, St. Francis and Sorel.
King Bird.....	Sorel	W. Bleakley	do	24	124	26	12	40	5	5	July	25	17	40	Tug, St. Maurice and Three Rivers.
	Rivière du Loup	do	Sept.	4	7	3	12	70	5	5	do	22	5	70	Tug, sidewheel.

LIST OF STEAM VESSELS inspected in the Quebec Division, for the year ended 31st December, 1872.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Total.	Remarks.
						\$ cts.	\$		\$ cts.	
Eclipse.....	Quebec	J. W. Dunascombe	April 24	216	33	21 60	5	May 16	26 60	Side wheel, tug, Montreal to Quebec.
Content	do	do	May 20	232	90	23 10	5	do 16	28 10	do do
Phenix	Levis	do	do 13	252	22	10 40	5	do 16	13 40	do do
Hector	do	do	do 11	80	51	8 00	5	do 16	13 00	do do
St. Charles.....	do	do	do 11	103	65	10 30	5	do 16	15 30	do do
Lord Elgin.....	Quebec	do	do 6	214	31	20 40	5	do 16	23 40	do do
William.....	do	do	do 4	208	131	20 80	5	do 16	23 80	do do
Royal.....	do	do	do 6	261	164	25 10	5	do 16	34 10	do do
Anglesa.....	Levis	do	do 7	133	97	15 30	5	do 17	20 30	do do
Hercules.....	do	do	do 16	200	126	20 00	5	do 17	25 00	do do
Mars.....	do	do	do 14	37	24	3 70	5	do 20	8 70	Screw, Quebec harbor tug, do
Samson.....	do	do	do 20	168	126	16 80	5	do 20	21 80	Side wheel, tug, Montreal to Quebec.
Eugenie.....	do	do	do 13	139	87	13 90	5	do 20	21 90	pass, St. Jean, I. O., to Quebec
St. Antoine.....	Quebec	do	do 21	139	100	13 90	5	do 21	23 90	do do
Fort Neuf.....	do	do	do 20	219	138	21 90	5	do 21	29 90	do St. Jean Deschailon do
E. P. Dore.....	do	do	do 14	42	26	4 10	5	do 22	9 10	Screw, Quebec harbor tug.
Reindeer.....	Dinning's Boom.	do	April 29	127	64	12 70	5	do 22	17 70	do tug, Montreal to Quebec.
Maid of Orleans.....	Indian Cove.....	do	do 26	120	76	12 00	5	do 22	20 00	Side wheel, market, Montreal to Quebec.
Helen.....	Sampson's Boom	do	May 27	135	83	13 50	5	do 16	18 50	tug, Montreal and Quebec.
St. George.....	do	do	do 28	203	128	20 30	5	do 16	28 30	do G. T. Ferry.
Quebec.....	Levis	do	do 7	159	100	15 90	5	do 11	22 80	do Quebec and Levis Ferry.
Levis.....	do	do	do 27	139	100	15 80	5	do 11	22 80	do do
Meritt.....	Quebec	W. Bleakley	April 22	1127	979	112 70	5	April 19	117 70	Prop, freight, Quebec and Montreal.
Rocket.....	do	do	do 29	387	215	28 70	5	do 19	46 70	Side wheel, pass, & tug, Montreal to Gulf
Meteor.....	do	do	do 30	232	109	25 20	5	do 19	43 20	do do
Gaspé.....	do	J. W. Dunascombe	do 29	340	232	31 00	5	do 19	43 00	Prop, pass, Quebec to Pictou, N. S.
Georgia.....	do	do	May 2	618	427	61 80	5	May 2	72 80	do Montreal to St. John, N. F.
Mary.....	do	do	do 3	60	22	6 00	5	do 6	11 00	Side wheel, tug, Montreal to Quebec.
Dauntless.....	do	do	do 4	81	35	8 10	5	do 6	13 10	Screw, tug, Harbor of Quebec.
Margaret.....	do	do	do 4	67	36	6 70	5	do 6	11 70	do do
Secret.....	do	do	do 2	407	295	40 60	5	do 7	54 60	Side wheel, pass, Quebec to Pictou, N. S.
Tadousac.....	Levis	do	do 8	142	62	14 20	5	do 11	19 20	do tug, River Saguenay, pool.
St. Nicholas.....	do	do	do 10	82	42	8 00	5	do 15	13 00	market, Quebec to N. S.
Itanger.....	Quebec	do	April 10	241	122	24 10	5	do 16	32 10	tug, and limited for 50 pass.
St. Andrew.....	do	do	May 11	218	137	21 80	5	do 16	26 80	do tug, Montreal to Ile.
Hero.....	do	do	April 29	209	151	20 90	5	do 16	25 90	do do

Clyde	do	27	237	148	23 70	8	do	16	31 70	do	pass.,	Quebec to Chicoutimi.
Adriac	do	May 27	303	232	40 30	5	do	16	45 30	do	do	Montreal.
Voyageur	do	do 7	137	17	13 70	5	do	16	18 70	do	do	do
Scotchman	do	do 8	98	58	8 90	5	do	16	13 90	do	do	do
Quebec	do	do 21	92	58	9 20	5	do	16	14 10	do	do	do
de Napoleon III.	do	do 18	91	55	9 10	5	do	16	11 00	do	Screw, harbor tug, Quebec.	
de Mercy	do	do 14	60	34	6 00	5	do	16	24 90	do	Side wheel, tug, Montreal to Bic.	
de Powerful	do	do 10	190	126	19 90	5	do	28	23 20	do	Pass., side wheel, Quebec to St. Jean	
de Esolle	do	Oct. 8	152	96	15 20	5	do	24	7 40	do	Quebec Harbor tug.	
Kate	do	May 4	28	8	2 40	5	do	24	7 40	do	Side wheel, river tug.	
Fire Fly	do	June 19	28	16	2 80	5	do	24	18 30	do	Pass., side wheel, Quebec to N. Liverpool.	
James	do	July 25	125	21	10 30	5	do	24	28 30	do	Side wheel, gulf and river tug.	
Conqueror No. 2	do	do 26	233	24	23 30	5	do	24	28 30	do	do	
Conqueror No. 1	do	Aug. 13	198	15	19 80	5	do	24	24 80	do	Screw.	
Champion	do	April 30	185	89	18 50	5	do	26	23 50	do	Harbor tug.	
Fairy	do	Oct. 30	113	6	1 30	5	do	29	6 30	do	Screw, winter ferry, Quebec and Lewis.	
Prince Edouard	do	do 30	161	111	16 20	8	May 11	11	24 20	do	Passenger, side wheel, Left in the fall	
Northern	do	July 27	1622	902	162 20	8	July 31	31	170 20	do	Harbor tug.	
Flora	do	May 14	49	24	5 00	5	Aug. 1	1	10 00	do	Pass., side wheel, Quebec to Fictou, N. S.	
Miramichi	do	June 1	727	491	72 20	8	July 31	31	80 20	do	Pass., side wheel, do	
National	do	May 17	121	77	12 20	8	Aug. 1	1	20 20	do	do	
Midge	do	Aug. 16	30	22	3 00	5	do	1	8 00	do	Side wheel, tug.	
Amanda	do	Oct. 30	11	6	1 10	5	do	1	6 10	do	Harbor tug.	
Hope	do	July 24	14	8	1 50	5	do	2	6 50	do	Side wheel, tug.	
City	do	do 29	51	19	5 20	5	do	14	10 20	do	Passenger, screw, Quebec to Moisie.	
Beaver	do	Aug. 19	145	99	14 60	8	do	19	22 60	do	Pass., side wh'l. Left in the fall for N. Y.	
Southern	do	do 27	1022	906	162 20	8	do	31	170 20	do	Propeller, passengers and freight, Montreal to Fictou, St. John, N. F.	
Alhambra	do	Sept. 2	1062	-722	106 30	8	Sept. 4	4	114 30	do	Screw prop., winter ferry, Lewis to Quebec.	
Arctic	do	Nov. 23	153	104	15 30	8	May 16	16	23 30	do	Side wheel, pass., Quebec to St. Croix.	
St. Croix	do	May 28	149	94	14 90	8	do	29	22 90	do	do	
Pointe Lewis	do	do 22	93	59	9 30	5	do	29	14 30	do	do	
Express	do	do 24	99	52	10 00	5	do	29	13 00	do	do	
Fictou	do	April 24	757	544	75 70	8	do	29	83 70	do	Ser. prop., pass., Montreal to Fictou, N. S.	
Manitoba	do	May 24	136	66	13 40	5	do	13	18 40	do	Side wheel, tug, Quebec to Beauharnois.	
Notre Dame de L.	do	June 29	135	65	13 50	8	do	11	21 50	do	do	
James McKenzie	do	do 17	448	125	44 80	5	do	16	49 80	do	tug, Montreal to Quebec.	
Storm	do	do 22	51	37	5 50	5	do	16	20 50	do	Screw, Quebec harbor tug.	
Tiger	do	do 15	141	89	14 10	5	do	16	19 10	do	Side wheel, tug, Quebec to Montreal.	
New Dominion	do	do 17	38	26	8 80	5	do	20	8 80	do	Screw, Quebec harbor tug.	

LIST OF STEAM VESSELS inspected in the Nova Scotia and New Brunswick Division, for the year ended 31st December, 1872.

Name of Vessel	Port of Inspection	Name of Collector	Date of Inspection	Gross Tonnage	Registered Tonnage	Tonnage Dues.	Inspection Fees.	Date of Payment	Total.	Remarks.
Hiram Perry	St. John, N. B.	J. R. Ruel	April 2	79	39	7 90	5	April 29	12 90	The first screw tug steamer inspected in my District this year.
Lincoln	do	do	do	87	32	8 70	5	do	13 70	Sidewheel tug.
St. John	do	do	do	34	6	3 40	5	do	8 40	New 1872, screw tug.
Simbury	do	do	do	184	108	18 40	8	do	26 40	Sidewheel tug.
Ada G.	do	do	do	102	30	10 20	8	do	18 90	do
City of St. John	do	do	do	709	518	70 90	8	May 19	78 90	Sidewheel passenger, Bay of Fundy.
Hercules	do	do	do	123	13	5 30	5	April 13	10 30	Screw, River St. John.
General	do	do	do	139	23	15 90	8	do	23 90	Sidewheel, St. John.
Tiger	do	do	do	105	19	10 50	8	do	13 50	do
Rothessy	do	do	do	839	627	83 90	8	May 7	91 90	do
Xanthus	do	do	do	64	23	6 40	5	do	11 40	do
Victor	do	do	do	29	8	2 90	5	April 16	7 90	Screw tug, St. John Harbor.
David Weston	do	do	do	18	765	76 50	8	do	84 50	Sidewheel passenger.
Scud	do	do	do	22	481	48 10	8	do	56 10	New from England, 1872.
Antelope	do	do	do	27	128	12 80	8	do	20 80	do
City of Fredericton	Fredericton, N. B.	do	May 3	252	196	25 20	8	do	33 20	New steamer, 1872, sidewheel.
May Queen	St. John, N. B.	do	do	4	502	50 20	8	do	58 20	do
Captain	do	do	do	68	31	6 80	5	do	11 80	New 1872, tug, St. John, N. B.
Cochituate	St. George, N. B.	J. A. Moran	do	13	17	1 70	5	May 1	6 70	do
Emperor	St. John, N. B.	J. R. Ruel	do	18	671	67 10	8	do	75 10	Lost on 28th May, 1872, sidewheel.
Western Extension	do	do	do	23	424	42 40	8	do	50 40	New, 1872, ferry.
Neptune	do	do	do	30	52	5 20	5	do	10 20	Screw tug.
Alida	do	do	June 3	64	29	6 40	5	June 1	11 40	do
Empress	do	do	do	929	660	92 90	8	May 7	100 90	Sidewheel passenger, Bay of Fundy.
Fred. Leavitt	Annapolis, N. S.	John Tobias	do	5	18	1 80	5	May 1	6 80	Screw ferry, Nova Scotia.
G. W. Johnson	Yarmouth, do	F. Moberly	do	72	35	7 20	5	do	12 20	Tug, Yarmouth Harbor.
Princess of Wales	Pictou, do	D. McCulloch	do	15	935	93 50	8	do	101 50	Sidewheel ferry, St. John.
St. Lawrence	do	do	do	19	845	84 50	8	do	92 50	do
East Riding	do	do	do	15	85	8 50	5	do	13 50	do
May Flower	do	do	do	17	136	13 60	8	do	21 60	Railway ferry, Pictou.
Pinto	do	do	do	18	86	8 60	5	do	13 60	Broken up this fall, screw tug.

Conqueror.....	do	do	146	8	do	17	23 60	Pictou.
Union.....	do	do	46	2	do	22	9 40	do
Henry Horver.....	do	do	24	30	do	22	3 40	do
M. A. Starr.....	do	do	244	166	do	22	32 40	Sidewheel, coasting, Nova Scotia.
Tassey.....	do	do	28	42	do	27	3 20	Chatham, do
New Era.....	do	do	28	54	do	28	10 40	do
Newcastle.....	do	do	29	30	do	28	8 00	passenger, Miramichi
Sultan.....	do	do	29	50	do	29	10 00	ferry, Newcastle, N. B.
Commerce.....	do	do	314	278	do	5	39 40	Screw tug, Miramichi.
	do	do			do	8		Sidewheel, passenger, P. E. Island and
	do	do			do	5		Halifax.
Fawn.....	do	do	621	457	do	16	70 10	Sidewheel, passenger, St. John River.
Spect.....	do	do	36	7	do	16	8 60	Screw tug
Beattie B.....	do	do	39	9	do	18	8 90	do
Telegraph.....	do	do	22	135	do	24	21 50	Sidewheel ferry, Indian Town, N. B.
Gladiator.....	do	do	27	70	do	29	21 50	Screw tug new from United States, 1872.
Richmond.....	do	do			do	5		do
Lenox Pass, C. B.....	do	do	44	44	do	8	9 40	New, 1872, Sidewheel.
St. John, N. B.....	do	do	296	175	do	21	34 60	do
Relief.....	do	do	5	59	do	21	10 90	Screw tug, St. John Harbor.
Enterprise.....	do	do	72	72	do	12	12 20	Sidewheel, ferry.
Onondago.....	do	do	294	98	do	12	37 40	do
Highlander.....	do	do	13	184	do	13	26 40	St. John Harbor.
Forty-second.....	do	do	13	49	do	13	2 90	Passenger, Upper River, St. John, N. B.
Ida Whittier.....	do	do	14	250	do	13	33 00	ferry, Fredericton, N. B.
New Dominion.....	do	do	14	18	do	13	6 50	do
Maryville.....	do	do	13	25	do	13	7 80	Upper River, St. John.
Pictou, N. S.....	do	do	19	25	do	13	6 50	ferry, Fredericton.
Tiger.....	do	do	60	28	do	11	11 00	do
Dragon.....	do	do	20	136	do	10	21 60	Prince Edward Island.
Neptune.....	do	do	24	98	do	24	24 80	Screw tug, Pictou, N. S.
Lady of the Lake.....	do	do	61	32	do	24	11 10	Sidewheel, passenger.
Cow Bay.....	do	do	25	140	do	24	22 00	Screw tug.
Little Glace Bay, C. B.....	do	do	25	140	do	24	22 00	Sidewheel, passenger.
Big Cow Bay, C. B.....	do	do	21	42	do	5	9 20	Screw tug, new from United States, 1872.
L. Boyer.....	do	do	26		do	21		do
Dolphin.....	do	do	26		do	21		do
Albert.....	do	do	174	72	do	8	25 40	New from United States, 1872.
St. John, N. B.....	do	do	174	72	do	8	25 40	Tested boiler, no certificate granted.
Shediac.....	do	do	25	37	do	31	8 70	New, 1872, freight.
St. George.....	do	do	25	18	do	31	8 70	Screw tug, St. John Harbor.
Robtsey Castle.....	do	do	21	177	do	28	95 70	Sidewheel coasting steamer, N. B.
J. C. Vail.....	do	do	29	14	do	5	7 90	Ferry, Gondola Point.
Bismarck.....	do	do	12	48	do	11	9 90	Ferry, 1872, screw tug, St. John River.
Fred. Clinch.....	do	do	15	13	do	11	6 30	Screw tug, Musquash River.
Sir C. Ogle.....	do	do	23	126	do	27	23 00	Screw tug, Musquash River.
Mic Mac.....	do	do	23	130	do	27	23 00	Sidewheel ferry, Halifax Harbor.
Chubco.....	do	do	26	108	do	27	13 80	do
St. John, N. B.....	do	do	26	108	do	27	13 80	do
Drugo.....	do	do	57	65	do	30	10 70	New, 1870, screw tug, St. John, N. B.

TOTAL amount of Tonnage, Gross and Registered, and total Tonnage Dues, and Inspection Fees, and the amount to each Inspection Division; and of Steam Vessels Inspected in the Dominion of Canada, for the Year ended 30th December, 1872.

Name of Division.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspectors Fees.	Totals.	Remarks.
West Ontario, Huron and Superior.....	23,950.22	16,770.93	\$ cts. 2,355 81	\$ cts. 836 00	\$ cts. 3,186 31	
East Ontario.....	11,734.05	6,881	1,377 60	454 00	1,731 00	
Montreal	8,704	3,648	849 20	348 00	1,197 20	
Three Rivers.....	7,242	3,372	709 10	227 00	936 10	
Quebec	18,771.12	10,421.55	1,770 70	462 00	2,232 70	
New Brunswick and Nova Scotia	13,622	9,039	1,362 20	457 00	1,819 20	
Dominion of Canada	84,023.84	50,132.48	8,324 61	2,784 00	11,083 11	

No. 2.—STATEMENT of the Number of STEAM VESSELS added to the Dominion, during the Year ended the 31st December, 1872, their Class and Horse Power, whether of Wood or Iron, their Gross and Registered Tonnage, where built, and where and how employed.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
<i>West Ontario, Huron, & Superior Division.</i>							
Ocean	33	Screw Steamer	Wood ..	358	287	Port Dalhousie, 1872....	Freight and passenger, Montreal and Chicago.
Argyle	37	do	do ..	353	286	St. Catharines, 1872....	do do do
City of Chatham	52	do	do ..	361	267	Chatham, 1872.....	do do do
Canada	54	Screw Compound	do ..	353	267	Hamilton, 1872.....	do do do
Lake Ontario	34	Screw Steamer	do ..	375	.....	Port Dalhousie, 1872....	do do do
Lake Michigan	34	do	do ..	367	.....	St. Catharines, 1872....	do do do
Thames	7	Screw Tug	do ..	40	30	Chatham, 1872.....	do do do
S. S. Edsall	67	- do	do ..	150	94	Buffalo, U.S., 1865....	Freight and tug, Chatham and Detroit.
John S. Clark	22	do	do ..	33	13	Chicago, U.S., 1867....	Tug, Toronto and Prescott, rafta.
Col. Strickland	19	Side Wheel	do ..	57	44	Lakefield, 1871.....	Tug, Toronto harbor.
Wm. Hall	30	Screw Tug	do ..	56	31	Buffalo, U.S., 1864....	Passenger and freight, Lakes Stony and Clear.
City of Dresden	18	Screw Steamer	do ..	129	69	Windsor, 1872.....	Rondeau and Pelee Island, towing timber, &c.
Mary R. Robertson	47	do Compound	do ..	367	243	Chatham, 1872.....	Passenger, Dresden and Detroit.
Lincoln	37	do Steamer	do ..	378	335	St. Catharines, 1872....	Freight, Chicago and Collingwood.
R. B. McPherson	74	do Tug	do ..	759	327	Goderich, 1871.....	Freight and towing barges, Chicago and Kingston.
Transit	165/02	do Double	do ..	104	335	Windsor, 1872.....	Tug, Goderich harbor, dredge tending.
W. S. Ireland	12	do Tug	do ..	49	43	Windsor, 1872.....	Ferry, G.W.R. car boat, Windsor and Detroit.
E. Windsor	24	do	do ..	68	37	Port Colborne, 1871....	Tug and freight, Rivers Thames and Detroit.
Georgiana	25	do	do ..	64	37	Sombra, 1871.....	Tug and wood barge, Rivers Sydenham & St. Clair.
Whistle Wing	10/08	Side Wheel Tug	do ..	31	17	Dunnville, 1872.....	Tug and freight, Dunnville and Buffalo.
International	155	do	do ..	1,052	.....	Peterboro, 1872.....	Passenger and freight, Rice Lake & Otonabee River.
Isaac May	62	Screw Barge	Wood ..	592	.....	Port Erie, 1872.....	Ferry and car boat, Point Edward and Fort Gratiot.
Silver Spray	30	do Tug	do ..	130	45	Port Welland, 1872....	Tug and freight, Waubesa and Chicago.
M. J. Mills	24	do	do ..	14	5	Sault Ste. Marie, U.S., 1869..	Tug, Silver Inlet and Lake Superior.
Magpie R. King	124	do	do ..	25	25	Port Robinson	perior.
Helen Grace	17	do	do ..	55	45	Buffalo, U.S., 1869.....	Tug, Silver Inlet and Thunder Bay.
Kaministiquia	18	Screw	do ..	129	65	Green Bay, U.S., ...	Passenger and freight, Fort William and Lake Superior.

STATEMENT of the Number of STEAM VESSELS added to the Dominion, during the Year, &c., &c.—Continued.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
<i>West Ontario, Huron, & Superior Division — Continued.</i>							
Vanderbilt	26	Side Wheel.	Wood ..	109	53	Lindsay, 1872	Passenger and freight, Lindsay and Port Perry.
Mary A. Laughlin	134	Screw Tug.	do ..	12	12	Buffalo, U.S., 1871	Tug, Welland Canal and harbors.
Sam Perry .....	.....	do do	do ..	42	42	Port Dalhousie, 1872	do do
Maid of Midland	2-10	Screw	do ..	12	12	Oakville, 1871	Passenger and freight, Penetanguishene and Coldwater.
<i>East Ontario Division.</i>							
China	60	Screw	Wood ..	335	259	Kingston	Between Chicago and Montreal, with freight and passengers.
Maud	71	Side Wheel.	Composite ..	121	46	do	Passenger boat, between ports on the Bay of Quinte.
Forest Queen	44	do ..	Wood ..	229	93	Pembroke	Tug, on Allumette Lake.
Jane	41	do ..	do ..	99	49	Hull	Ferry boat, between Hull and Ottawa.
Chaudiere	57	do ..	do ..	254	68	Aylmer	Tug, on Du Chêne Lake.
Portsmouth	10-05	Screw	do ..	153	96	Kingston	Tug and freight, on Rideau Canal and Rivers.
Norman	10	do ..	do ..	151	112	Openpout Lake	do do Bay of Quinte and Rivers.
John Egan	44	Side Wheel.	do ..	238	98	Pembroke	Passenger steamer, on Allumette Lake.
Deux Riviere	16	do ..	do ..	84	34	Roche Capitaine	do do between Roche Capitaine and Deux Luviers.
<i>Three Rivers Division.</i>							
York	98-04	No class	Wood ..	351	195	Montreal	Freight between Montreal and Hamilton.
Montarville	58-21	do ..	do ..	253	114	do ..	Passenger between Montreal and Quebec.
<i>Montreal Division.</i>							
John	43-57	Paddle	Wood ..	104	48	Sorel	Tug, between Montreal and Whitehall.
Boston	45-53	do ..	do ..	177	33	do ..	do do Quebec.
Mario	9-26	do ..	do ..	23	16	do ..	do do St. Francis and Sorel.
Abenaki	31-68	do ..	do ..	27	.....	St. Francis	do do
Vermont	36-63	do ..	do ..	117	47	Sorel	do do Montreal and Chambly.

Québec Division.

Champion.....	140	Screw Tug.....	Wood..	185-76	89-52	Levis.....	Towing, Montreal to Gulf.
Kora.....	43	do.....	do ..	49-96	24-84	Buffalo, U.S.....	Harbor tug, Quebec.
Conest.....	52-85	Side Wheel.....	Compo- site.....	231-29	90-19	Quebec.....	Towing, from Montreal to Bic, below.
Pictou.....	66-98	Screw Steamer.....	Wood.....	756-74	544-17	New York, U.S.....	Freight and passenger, Montreal to Pictou, N.S.
Miramichi.....	207-82	Side Wheel.....	Steel.....	727-50	491-14	Liverpool, England.....	do do Quebec to Pictou, N.S.
James.....	23-51	do.....	Wood.....	125-50	31-42	New Liverpool, Quebec.....	do do Quebec to New Liverpool.
Conqueror No. 2.....	90-22	do.....	Iron.....	233-04	24-47	Clyde, Scotland.....	Towing, from Montreal to the Gulf.
Northern.....	400	do.....	do ..	1622-17	904-81	{ Liverpool, England..... }	Came here in July, and have been taken round to
Southern.....	400	do.....	do ..	1622-04	906-22	{ New York, U.S..... }	New York, U.S.
Beaver.....	27-25	Screw Steamer.....	do ..	146-85	90-86	Clyde, Scotland.....	Freight and passenger, trading from Quebec to Moisie.

**New Scotia and New
Brunswick Division.**

St. John.....	30	None.....	Wood.....	34	6	St. John, N.B.....	St. John harbor, N.B., tug.
Captain.....	100	do.....	do ..	68	21	do ..	do do
Scud.....	240	A. 1.....	Iron.....	431	283	England.....	St. John, passenger, Bay of Fundy.
Western Extension.....	60	None.....	Wood.....	424	163	St. John, N.B.....	Harbor St. John, railway ferry.
City of Fredericton.....	100	do.....	do ..	232	196	Fredericton, N.B.....	Passenger, Upper River, St. John, N.B.
Chionate.....	16	do.....	do ..	16	16	United States.....	Tug, Macdavic River, N.B.
Gladiator.....	21	do.....	do ..	70	36	do ..	Tug, Richibucto River, N.B.
Glendon.....	49	do.....	do ..	266	175	St. John, N.B.....	Freight, United States.
C. M. Cates.....	24	do.....	do ..	42	42	United States.....	Little Glacia Bay, tug.
Albert.....	21	do.....	do ..	174	87	St. John, N.B.....	Passenger and freight, Bay of Fundy.
Richmond.....	32	do.....	do ..	44	44	Halifax, N.S.....	Screw passenger, Cape Breton.
Bismarck.....	8	do.....	do ..	49	10	Fredericton, N.B.....	St. John River, tug.
Derigo.....	26	do.....	do ..	57	21	St. John, N.B.....	do Harbor and Bay, tug.

STATEMENT of the Number of STEAM VESSELS added to the Dominion, during the Year, &c., &c.—Continued.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
<i>West Ontario, Huron, & Superior Division—Continued.</i>							
Vanderbilt	26	Side Wheel.	Wood ..	109	53	Lindsay, 1872	Passenger and freight, Lindsay and Port Perry.
Mary A. Laughlin	134	Screw Tug.	do ..	12	12	Buffalo, U.S., 1871	Tug, Welland Canal and harbors.
San Perry	134	do ..	do ..	42	42	Port Dalhousie, 1872	do ..
Maid of Midland	2-10	Screw	do ..	12	12	Oakville, 1871	Passenger and freight, Penetanguishene and Coldwater.
<i>East Ontario Division.</i>							
China	60	Screw	Wood ..	335	239	Kingston	Between Chicago and Montreal, with freight and passengers.
Maud	71	Side Wheel.	Composite.	121	46	do	Passenger boat, between ports on the Bay of Quinte.
Forest Queen	44	do ..	Wood ..	229	93	Pembroke	Tug, on Alimette Lake.
Jane	41	do ..	do ..	99	49	Hull	Ferry boat, between Hull and Ottawa.
Chandlers	57	do ..	do ..	234	68	Avon	Tug, on Du Chêne Lake.
Portsmouth	10-05	Screw	do ..	133	96	Kingston	Tug and freight, on Rideau Canal and Rivers.
Norman	10	do ..	do ..	151	112	Opencon Lake	do ..
John Egan	44	do ..	do ..	238	98	Pembroke	Passenger steamer, on Alimette Lake.
Deux Rivières	16	Side Wheel.	do ..	84	34	Roche Capitaine	do .. between Roche Capitaine and Deux Rivières.
<i>Three Rivers Division.</i>							
York	98-04	No class	Wood ..	351	195	Montreal	Freight between Montreal and Hamilton.
Montarrville	28-21	do ..	do ..	253	114	do ..	Passenger between Montreal and Quebec.
<i>Montreal Division.</i>							
John	43-57	Paddle	Wood ..	104	48	Sorel	Tug, between Montreal and Whitehall.
Boston	45-53	do ..	do ..	177	33	do ..	do .. Quebec.
Montreal	9-26	do ..	do ..	23	16	do ..	do .. St. Francis and Sorel.
Abenakis	31-68	do ..	do ..	27	16	St. Francis	do .. do
Vermont	36-63	do ..	do ..	117	47	Sorel	do .. Montreal and Chambly.

Quebec Division.

Champion.....	140	Screw Tug.....	Wood.....	183-76	89-52	Levi's.....	Towing, Montreal to Gulf.
Flora.....	43	do.....	do.....	43-96	24-84	Buffalo, U.S.....	Harbor tug, Quebec.
Contest.....	52-85	Side Wheel.....	Compo- site.....	231-29	90-19	Quebec.....	Towing, from Montreal to Bic, below.
Pictou.....	66-98	Screw Steamer.....	Wood.....	736-74	544-17	New York, U.S.....	Freight and passenger, Montreal to Pictou, N.S.
Miramichi.....	207-82	Side Wheel.....	Steel.....	727-20	491-14	Liverpool, England.....	do do Quebec to Pictou, N.S.
James.....	23-51	do.....	Wood.....	125-50	31-42	New Liverpool, Quebec.....	do do Quebec to New Liverpool.
Conqueror No. 2.....	99-22	do.....	Iron.....	213-04	24-47	Clyde, Scotland.....	Towing, from Montreal to the Gulf.
Northern.....	400	do.....	do.....	1622-17	904-81	{ Liverpool, England. }	Came here in July, and have been taken round to
Southern.....	400	do.....	do.....	1622-04	906-22	{ }	New York, U.S.
Beaver.....	27-25	Screw Steamer.....	do.....	146-85	99-86	Clyde, Scotland.....	Freight and passenger, trading from Quebec to
							Moisie.

Nova Scotia and New
Brunswick Division.

St. John.....	30	None.....	Wood.....	34	6	St. John, N.B.....	St. John harbor, N.B., tug.
Captain.....	100	do.....	do.....	68	21	do.....	do
Scud.....	240	A. 1.....	Iron.....	481	285	England.....	St. John, passenger, Bay of Fundy.
Western Extension.....	90	None.....	Wood.....	424	169	St. John, N.B.....	Harbor St. John, railway ferry.
City of Fredericton.....	100	do.....	do.....	252	196	Fredricton, N.B.....	Passenger, Upper River, St. John, N.B.
Chicout.....	16	do.....	do.....	16	16	United States.....	Tug, Macadavie River, N.B.
Gladiator.....	21	do.....	do.....	70	36	do.....	Tug, Richibucto River, N.B.
Glendon.....	49	do.....	do.....	266	175	St. John, N.B.....	Freight, United States.
C. M. Cates.....	24	do.....	do.....	42	42	United States.....	Little Glace Bay, tug.
Albert.....	21	do.....	do.....	174	87	St. John, N.B.....	Passenger and freight, Bay of Fundy.
Richmond.....	32	do.....	do.....	44	44	Halifax, N.S.....	Screw passenger, Cape Breton.
Bismarck.....	8	do.....	do.....	49	10	Fredricton, N.B.....	St. John River, tug.
Derigo.....	26	do.....	do.....	57	21	St. John, N.B.....	do Harbor and Bay, tug.

No. 3.—STATEMENT of the Number of Steam Vessels lost, broken up, or laid up, as unfit for service, in the Dominion, during the year ended the 31st December, 1872; their class and horse power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
Hero.....	.....	Screw Tug.....	Wood.....	16	16	.....	Tug, Owen Sound; sunk in harbour.
Champion.....	9	do.....	do.....	51	34	Seneca Lake, U. S.....	do
Dalhousie.....	58	Screw Steamer.....	do.....	353	286	St. Catharines, 1869.....	Freight, Chicago and Montreal; burned abreast of Oak Orchard, Lake Ontario; total loss.
Mary Ward.....	32	do.....	do.....	345	235	Wallaceburg, 1869.....	Pass'gr and freight; driven ashore near Collingwood.
Hercules.....	148	Side Wheel.....	do.....	470	331	Garden Island.....	Tug steamer, between Hamilton and Quebec.
Highlander.....	92	do.....	do.....	300	182	Montreal.....	do
St. Helen.....	46	do.....	do.....	269	79	do.....	do
Kingston.....	89	do.....	do.....	344	201	do.....	Passenger steamer, between Trenton and Montreal.
China.....	60	Screw.....	Iron.....	355	259	Kingston.....	do
Pontiac.....	44	Side Wheel.....	Wood.....	120	66	Pembroke.....	do and freight steamer, Chicago do
Lawrence.....	38-30	No class.....	do.....	133	37	Montreal.....	do do Allumette Lake.
Claspé.....	83-82	Screw Steamer.....	Iron.....	340	231-72	Greenock.....	Tug, between Montreal and Chambly; burnt on the 20th November.
Phoenix.....	34-7	Side Wheel.....	Wood.....	104	23	Levis.....	Freight and passenger, Montreal to St. John, Newfoundland; ran ashore on South Point, off Langlade, St. John, Newfoundland, and broke up.
James McKenzie.....	159	do.....	do.....	448	125	Quebec.....	Tug; burnt in coming down with a raft at Batiscan.
Alliance.....	53	Harbor Tug.....	do.....	69	47	Sorel.....	Harbour tug; broken up and rebuilt.
Empress.....	220	None.....	do.....	671	332	St. John, N. B.....	Tug; Quebec to Montreal; broken up this winter.
Picton.....	90	do.....	do.....	86	86	Bay of Fundy, Passengers.	Bay of Fundy, Passengers.
Gazelle.....	75	do.....	do.....	109	77	Picton, N. S.....	Picton harbour, N. S., tug.
						United States.....	Frederickton, N. E., passenger, Upper River.

No 4.—STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 31st. March, 1872, their Class and Place of Residence, the Year of their First Examination, and the Number of their Renewals, the name of the Steamer last Employ, by whom Examined, the Date of the Certificate, and Amount of Fee.

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Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, by whom recommended.	By whom Examined.	Date of Certificate.	Fee. \$ cts.
John Stevens	Second	First	1866	5	Bobcaygeon	Red River	Board of S. B. I.	17 Jan.	1 00
Charles Sinter	Second	First	1865	7	St. Catharines	Prince Alfred	do	19 Feb.	1 00
Geo. Wright	Third	Third	1869	3	Cobourg	Annie Reid	do	19 do	1 00
William Weir	First	First	1872	60 days	Hamilton	Lady Brisbane	Chrm. B. S. B. I.	27 do	1 00
Alex. Thebeau	Third	Third	1869	3	Sorel	Cultivateur	X. Befort	do	28 1 00
Alex. St. Martin	Second	Second	1870	2	do	Messenger	Board of S. B. I.	do	1 00
Nazero Gillette	Third	do	1869	3	do	Salisbury	X. Befort	do	28 1 00
John Fontiquay	Third	do	1869	3	do	Alice	do	do	28 1 00
Edmund Delat	Third	do	1869	3	do	Messenger	Board of S. B. I.	do	28 1 00
Pierre Berard	do	do	1866	6	do	Royal	do	do	28 1 00
Wm. Laurio	do	do	1869	3	do	Rocket	do	do	28 1 00
Charles Ross	do	Third	1869	3	Sand Point	Snow Bird	do	do	28 1 00
James Hughes	Second	First	1869	10	Amprior	Allumette	do	do	28 1 00
Robert Halliday	First	do	1869	3	Prescott	Oregon	do	do	28 1 00
Henry Thurston	Second	Third	1869	3	Kingston	Glide	J. Taylor	do	28 1 00
Fred. Dewbury	Second	Third	1862	10	do	Bristol	Board of S. B. I.	do	28 1 00
James McArthur	do	do	1869	3	do	do	do	do	28 1 00
John Dungan	do	do	1863	9	Prescott	Prince Arthur	do	do	28 1 00
Geo. Oatrant	First	do	1863	9	Portage du Fort	Union Forwarding Co.	do	do	28 1 00
Sylvester Sullivan	Second	do	1860	12	Kingston	Banhee	do	do	28 1 00
James Ruthven	Third	do	1868	3	Toronto	Government employ	do	do	28 2 00
James Davis	First	do	1861	11	Kingston	do	do	March 6	1 00
Alex. Sheridan	Third	do	1869	3	Toronto	Not employed	do	do	6 2 00
Wm. Leclaire	do	do	1868	4	Sorel	Elfin	do	do	11 1 00
Michel Gerraie	Second	do	1860	12	do	Montreal	do	do	11 1 00
Narcisse Barbel	do	do	1869	3	do	St. Tourville	do	do	11 2 00
Edward Pellet	Third	Second	1869	3	do	Not employed	X. Befort	do	11 2 00
Ed. Rauseau	Third	Third	1872	60 days	Kingston	Montreal	do	do	11 1 00
Joseph Martin	do	do	1872	do	do	Meteor	do	do	11 1 00
Leandre Godin	do	do	1872	do	do	L. A. Senegal	do	do	11 1 00
William Matte	do	do	1872	do	do	Meteor	do	do	11 1 00
Narcisse Lamontagne	do	do	1872	do	do	Chambly	do	do	11 1 00
Duncan McLunes	do	do	1871	1	do	Enterprise	Board of S. B. I.	do	11 1 00

No. 4.—STEAMBOAT ENGINEERS.—Examination and Renewals during the Quarter ending 30th June, 1872.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamers and by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
John Burgess.....	First.....	.....	1860.....	12.....	Sorel.....	Meteor.....	Board of S. B. I.	March 11.....	1 00
Wm. Smith.....	do.....	.....	1860.....	12.....	do.....	Rocket.....	do.....	do 11.....	2 00
Wm. Laurie.....	Third.....	.....	1869.....	3.....	do.....	do.....	do.....	do 11.....	2 00
Siméon Theriot.....	do.....	.....	1860.....	12.....	St. Joseph.....	Tug, Albion.....	do.....	do 11.....	1 00
Louis Fréchette.....	do.....	.....	1867.....	5.....	Levis.....	do.....	do.....	do 11.....	1 00
Elize Rousseau.....	do.....	.....	1860.....	12.....	do.....	do Voyageur.....	do.....	do 11.....	1 00
Thos. Polignan.....	First.....	.....	1860.....	12.....	Pt. Levis.....	S. S. Georgia.....	do.....	do 18.....	1 00
Francis Levallier.....	Third.....	.....	1860.....	12.....	Windsor.....	do Gaspé.....	do.....	do 18.....	1 00
Octave Filleau.....	Second.....	.....	1860.....	12.....	Levis.....	Tug, Ranger.....	do.....	do 18.....	1 00
Elize Baryean.....	.....	First.....	1868.....	4.....	St. Apollinaire.....	do City.....	do.....	do 18.....	1 00
Idore Tanguay.....	Third.....	.....	1868.....	12.....	do.....	S. S. Georgia.....	do.....	do 18.....	1 00
Charles Echenbarg.....	do.....	.....	1867.....	5.....	do.....	Tug, Queen.....	do.....	do 18.....	2 00
Damas Dion.....	do.....	.....	1867.....	5.....	do.....	Avalon.....	do.....	do 18.....	2 00
Victor Fiteau.....	Second.....	.....	1860.....	12.....	do.....	L. McKenzie.....	do.....	do 18.....	2 00
P. Carboneau.....	do.....	.....	1860.....	12.....	do.....	S. S. Georgia.....	do.....	do 18.....	1 00
André Mills.....	First.....	.....	1865.....	7.....	Lindsay.....	Victoria.....	do.....	do 18.....	1 00
John Miller.....	do.....	.....	1865.....	7.....	do.....	Union.....	do.....	do 18.....	1 00
James Dungan.....	Second.....	.....	1872.....	New.....	Prescott.....	do.....	do.....	do 26.....	1 00
M. H. Cathrie.....	do.....	.....	1866.....	10.....	Windsor.....	Ann Susan.....	do.....	do 26.....	1 00
John McDonald.....	do.....	.....	1872.....	6.....	St. Catharines.....	Lilly Kerr.....	Chm. Bd. S. B. I.	April 4.....	1 00
Hugh McKenzie.....	Third.....	.....	1872.....	60 days.....	Gr. derich.....	Wm. Seymour.....	do.....	do 4.....	1 00
James H. Kelly.....	Second.....	.....	1872.....	New.....	do.....	Steam Barge Herald.....	do.....	do 4.....	1 00
Robert Flanigan.....	do.....	.....	1864.....	8.....	Brookville.....	Ida Burton.....	Board of S. B. I.	Jan. 1.....	4 00
Wm. Sutherland.....	Third.....	.....	1869.....	3.....	Kingston.....	Brantford.....	do.....	do 1.....	1 00
Ed. Marchand.....	do.....	do.....	1872.....	60 days.....	Garden Island.....	Rescue.....	J. Taylor.....	March 6.....	1 00
Terence Haney.....	Second.....	.....	1864.....	7.....	Kingston.....	City of Ottawa.....	Board of S. B. I.	Jan. 1.....	1 00
.....	.....	Second.....	1869.....	3.....	Pembroke.....	Pontiac.....	do.....	do 1.....	1 00

David McLean	Third	1869	3	Aylmer	Pontiac	Board of S.B.I.	Jan.	1	1
Geo. Henderson	Second	1869	3	Kingston	Glide	do	do	1	1
Jeffrey Fowler	Third	1865	6	Ottawa	Queen of the Isles	do	do	1	1
Thos. Stanton	First	1869	3	Ottawa	Carlella	do	do	1	1
W. R. Barbour	First	1872	60 days	Yarmouth, N.S.	Gipsy	Wm. W. Smith	April	9	1
Daniel McCarthy	do	1872	do	do	Relief	do	do	1	1
Moses Ward	do	1872	do	do	Matamoras	do	do	1	1
Christopher Robinson	Third	1868	4	Kingston	Red River	Board of S.B.I.	January	9	1
James Fitzpatrick	Second	1865	7	Cobden	Jason Gould	do	do	1	1
Charles Ayerst	Third	1872	60 days	Catarqui	Foundry	J. Taylor	do	1	1
George Farron	Second	1868	4	Kingston	St. Lawrence	Board of S.B.I.	do	1	1
Baptiste Droust	Third	1865	6	Montreal	Victory	do	do	1	1
Archibald Brown	Second	1867	5	Kingston	Greenville	do	do	1	5
William Kennedy	Third	1872	60 days	Garden Island	America	J. Taylor	do	1	1
Thomas Maxwell	Second	1871	2	Chataway	Magnet	Board of S.B.I.	do	1	5
J. Mickle	do	1863	9	Rockburn	Acadia	do	do	1	1
James McQuade	First	1864	8	Collingwood	Tug Watson	do	do	1	1
A. K. Harris	Second	1869	3	Toronto	Mr. Boulton	Chmn. Bd. S.B.I.	May	1	1
James Trick	Third	1872	60 days	do	Metamora	Board of S.B.I.	January	1	1
J. D. Banks	do	1868	4	do	Wabano	do	do	1	1
William Moyes	Second	1868	4	Gravenhurst	Sorel	X. Befort	April	12	1
Olivier Gerard	Third	1872	60 days	do	Three Rivers	do	March	25	1
Pierre Dejarlin	Second	1872	do	Chatham	Novelty	Board of S.B.I.	January	1	1
William Hopkins	Third	1865	6	Lindsay	Nantola	do	do	1	1
William Bacheler	Second	1865	7	Lindsay	Minnie Hall	Board of S.B.I.	do	1	1
John Flanagan	First	1872	60 days	St. John, N. B.	Empress	Wm. M. Smith	May	11	1
Thomas Collins	Second	1872	do	do	Forest Queen	do	do	1	1
Edward Field	do	1872	do	Halifax, N.S.	Sanson	do	do	1	1
William Wartell	Second	1872	do	Ball Ewart	Emily May	Chmn. Bd. S.B.I.	January	1	1
Fred Owen	First	1872	do	Sarnia	Steam Mill	do	April	29	1
Charles Dower	Third	1867	5	Belleville	Tug Whistle	Board of S.B.I.	January	1	1
Alexander Sommerville	First	1872	60 days	do	Banhee	J. Taylor	May	10	1
William Carter	Second	1872	do	Kingston	Rochester	do	do	1	1
L. W. Jeffers	do	1865	7	do	Nile	Board of S.B.I.	January	27	1
Robert Hossburn	Third	1872	60 days	do	Dramary	J. Taylor	May	20	1
John Munnell	do	1872	do	Toronto	Lady Franklin	do	April	12	1
William Kennedy	do	1866	6	St. George, N. B.	Fred Finch	Board of S.B.I.	May	11	1
Neil A. Soelwyn	First	1872	60 days	St. John, N. B.	Victor	Wm. M. Smith	May	5	1
James Clark	do	1872	do	Kincardine	None	Board of S.B.I.	January	1	1
Angus Turner	Third	1865	7	Three Rivers	Arthur	X. Befort	April	29	1
Andrew Mill	First	1870	2	Sorel	Rocket	do	do	1	1
Jean Charbonneau	Third	1872	60 days	Cap Magdelaine	Watchman	do	June	4	1
Henry Lacroix	do	1872	do	Sorel	None	do	May	28	1
Vesent Dusere	do	1872	do	do	Lake Michikan	do	do	25	1
William Steelworthy	do	1872	do	Lindsay	Prescott	W.S. Menelley	July	2	1
George Keats	First	1872	2nd Ex.	do	do	do	do	13	1
Harris Higgins	Third	1872	60 days	Bel Ewart	Tug Isabelle	do	April	10	1
Ell E. Tedman	Second	1872	do	Amherstburg	Tug Minie Morton	do	do	17	1
James Gordon	do	1872	do	Mount Forest	Connedore	do	do	17	1
Robert Curle	do	1872	do	do	do	do	do	18	1

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 30th June, 1871.—*Continued.*

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examin.	Number of Renewals.	Place of Residence.	Name of Steamer, by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
Richard Bragger.....		Second.....	1872.....	60 days.....	Guelph.....	Tug Mrs. Hall.....	W. J. Menzies.....	May.....	6 1 00
John H. Sims.....		do.....	1872.....	do.....	Hamilton.....	City of Montreal.....	do.....	do.....	9 1 00
Charles Coan.....		Third.....	1872.....	do.....	Port Dalhousie.....	Tug W. S. Robb.....	do.....	do.....	16 1 00
Robert J. Black.....		do.....	1872.....	do.....	St. Catharines.....	Isaac May.....	do.....	do.....	25 1 00
Francis Young.....		do.....	1872.....	do.....	Owen Sound.....	Francis Smith.....	do.....	do.....	30 1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 30th September, 1872.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examin.	Number of Renewals.	Place of Residence.	Name of Steamer, by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
William Lockie.....		Second.....	1872.....	60 days.....	Collingwood.....	Manitoba.....	W. J. Menzies.....	June.....	4 1 00
James Gordon.....		do.....	1872.....	do.....	Ankerburg.....	Minnie Morton.....	do.....	do.....	17 1 00
John Riddle.....		do.....	1872.....	do.....	Port Huron, N.S.....	Large Beaver.....	do.....	do.....	17 1 00
Dugald H. Roberts.....		do.....	1872.....	do.....	Wallaceburg.....	Reindeer.....	do.....	do.....	17 1 00
Philip Crobie.....		do.....	1872.....	do.....	Mario City, N.S.....	E. Windsor.....	do.....	do.....	17 1 00
G. W. Douglas.....		First.....	1872.....	do.....	Lindsay.....	Ontario.....	do.....	do.....	21 1 00
William Jackson.....		Second.....	1869.....	3.....	Peterborough.....	Enterprise.....	Board of S.M.I.....	January.....	1 00
Charles Hood.....		do.....	1869.....	3.....	Toronto.....	Ontario.....	do.....	do.....	1 00
Michael Madden.....		do.....	1869.....	12.....	Kingston.....	Algonia.....	do.....	do.....	1 00
John Hamilton.....		First.....	1871.....	1.....	Quebec.....	Shop.....	do.....	April.....	24 1 00
Pierre Gauthier.....		do.....	1869.....	12.....	Levis.....	Tug Providence.....	do.....	May.....	6 1 00
Thomas Glib.....		Second.....	1869.....	60 days.....	Quebec.....	do.....	do.....	April.....	2 1 00
Hippolite Lamotte.....		do.....	1872.....	do.....	St. Croix.....	City of Hartford.....	J. Samson.....	do.....	9 1 00
B. Parr.....		Third.....	1872.....	do.....	St. Antoine.....	Tug Al.....	do.....	do.....	18 1 00
Gabriel Ganache.....		Second.....	1872.....	do.....	do.....	M. Stephenson.....	do.....	do.....	24 1 00
Theophile Guilbault.....		Third.....	1872.....	do.....	Ilelet.....	conqueror.....	do.....	do.....	24 1 00
Joseph Brown.....		do.....	1872.....	do.....	Levis.....	S. S. Georgia.....	do.....	do.....	25 1 00
Eliz Ockrill.....		Third.....	1872.....	do.....	Quebec.....	S. S. North America.....	do.....	do.....	25 1 00
Stephen Morrison.....		do.....	1872.....	do.....	do.....	Maguet.....	do.....	do.....	25 1 00
Duncan McCraig.....		Second.....	1872.....	do.....	Prince Edward.....	Quail.....	J. Taylor.....	do.....	1 00
.....		Third.....	1865.....	7.....	Chatauguay.....	Jessie Abbey.....	Board of S.B.I.....	January.....	1 00

Charles Munroe	Second	1860	12	Pomfroe	Forest Queen	J. Taylor	do	1 00
Abner Nichol	Third	1872	60 days	Carleton Place	Enterprise	do	do	1 00
Charles Ayerst	Third	1872	do	Cataracqui	Carlyle	Chmn, Bd. S. B. I.	June	1 00
Hugh McKenzie	Second	1872	do	Kincardine	Kincardine	do	do	1 00
Thomas Dewey	Third	1872	New	St. Catharines	None	Board of S. B. I.	do	5 00
Adelston Kerr	Second	1872	do	Belle Ewart	Emily May	do	July	5 00
Henry McDonald	Third	1872	do	Port Perry	Angie Saxon	do	do	5 00
William Anderson	Third	1869	3rd Ex.	Colborne	Agnes McMahon	do	do	5 00
William H. Means	Third	1872	New	Toronto	None	do	do	5 00
Charles Cowan	do	1872	2-60 days	Port Dalhousie	W. T. Robb	W. J. Menelly	do	1 00
William Wardell	Second	1872	do	Belle Ewart	Emily May	Chmn, Bd. S. B. I.	August	1 00
R. J. Black	Third	1872	do	St. Catharines	Isaac May	W. J. Menelly	July	1 00
Daniel Tadrin	First	1872	60 days	Prince Edward's Isd.	Heather Bell	Wm. M. Smith	do	14 1 00
John McDonald	do	1872	do	Glengary	Adolphus	do	do	1 00
David Kerr	Third	1872	2-60 days	Hamilton	Canada	Chmn, Bd. S. B. I.	do	1 2 00
Fred. Sharnan	Second	1871	60 days	Lindsay	Anglo Saxon	do	August	27 6 00
Abbot Kenney	do	1871	do	Hamilton	Transit	do	do	6 00
Thos. G. Read	Third	1865	do	Wallaceburg	None	Board of S. B. I.	January	1 00
Henry Brand	do	1861	11	St. Catharines	Florence	do	do	5 00
James Conbrugh	do	1872	2nd Ex.	Wallaceburg	Beaver	Chmn, Bd. S. B. I.	June	13 5 00
Hugh McKenzie	do	1872	2-60 days	Goderich	Herald	do	August	6 1 00
John Thorburn	do	1871	6-60 days	do	do	do	do	27 6 00
John Howard	Second	1868	4	Sacket's Harbor	Absynian	Board of S. B. I.	January	1 00
Thomas McCaffrey	do	1868	4	Ogdensburg	Athenian	do	do	1 00
William Allen	Second	1868	do	Cornwall	do	do	do	1 00
Alexander Summerville	First	1872	2-60 days	Kingston	Panabee	J. Taylor	July	16 1 00
John Mundell	Third	1872	do	do	Dromedary	do	do	10 1 00
Philip Kenny	do	1871	do	do	Graville	do	do	13 1 00
William Carter	Second	1870	1-60 days	do	Kitty Friel	do	do	20 1 00
Timothy Gents	do	1870	12	Brookville	Bruce	Board of S. B. I.	January	6 1 00
William Sutherland	Third	1872	2-60 days	Kingston	Rescue	J. Taylor	July	2 00
George Yeats	Second	1871	1-	Wallaceburg	Alex. Jones	Board of S. B. I.	Jan.	1 00
Thos. Collins	do	1872	New	St. John	Zampus	do	do	1 5 00
Daniel Donovan	Second	1872	New	do	Fred Clinch	do	do	1 00
David McKane	Third	1870	2	do	Antelope	do	do	1 00
Neil A. Kellyn	First	1872	New	St. George	Utopia	do	do	1 00
John McDonald	do	1872	New	Newcastle	New Era	do	do	1 00
Alex. Elliott	First	1871	2	St. John	Rothway	do	do	1 00
Samuel Reardon	Second	1872	New	Halifax	M. A. Starr	do	do	1 00
Wm. Robson	First	1868	4	St. John	Neptune	do	do	1 00
Alex. Nilson	do	1868	4	do	Scud	do	do	1 00
Linton R. Barbour	First	1872	New	Yarmouth	Albert	do	do	1 00
John Ross	do	1868	4	St. John	City of St. John	do	do	1 00
J. Retalick	Third	1872	2 Ex.	do	Western Extension	do	do	1 5 00
James Clark	First	1872	New	do	Victory	do	do	1 7 00
James B. McMurray	do	1872	New	do	Enterprise	do	do	1 6 00
S. W. Smith	Second	1871	2	do	St. George	do	do	1 1 00
Robert McEwan	First	1868	4	do	Tug Relief	do	do	1 1 00
Charles E. Cox	do	1872	2 Ex.	do	May Queen	do	do	1 5 00
George Tudhope	Third	1872	New	do	America	do	do	1 1 00
Wm. J. Pratt	First	1870	2	do	Hiram Perry	do	do	1 1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 30th September, 1872.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Exami- nation.	Number of Renewals.	Place of Residence.	Name of Steamer, by whom recommended.	By whom Examined.	Date of Certifi- cate.	Fee. \$ cts
Patrick Stevenson	Third	First	1870	2 Ex.	St. John	City of St. John	Board of S. B. I.	1 Jan.	5 00
Alex. Nilson, jun.	First	First	1870	2	do	St. John	do	do	1 00
James B. Sinclair	First	First	1868	4	do	Captain	do	do	1 00
Peter Sinclair	Second	Second	1868	4	do	Antelope	do	do	1 00
Duncan Gunn	First	First	1868	4	do	May Queen	do	do	1 00
John Carrick	Second	Second	1868	4	do	Sunbury	do	do	1 00
D. B. Mays	First	First	1868	4	do	Ada G.	do	do	1 00
Wm. J. Pratt	First	First	1871	1	do	None	do	do	1 00
Herman E. Lapeley	First	First	1872	2 Ex.	do	Simon	do	do	1 00
John McMurray	Second	do	1868	4	do	Ferry Steamer	do	do	1 00
Alex. McMurray	Second	do	1868	4	do	J. C. Valve	do	do	1 00
John Knox	Second	Second	1868	4	do	Scud	do	do	1 00
James Mowbray	First	First	1872	2 Ex.	do	None	do	do	1 00
Alonzo F. Allen	do	do	1869	3	do	Alida	do	do	1 00
Samuel T. Wilson	Third	First	1870	2 Ex.	Port Duchene	Rothsay Castle	do	do	1 00
Thos. Marriotte	First	First	1870	1	do	do	do	do	1 00
Michael McAlloer	First	do	1868	4	St. John	None	do	do	1 00
Edward McAlloer	do	do	1868	2 Ex.	do	do	do	do	1 00
Wm. McMaster	First	First	1871	1	Miramichi	Newcastle	do	do	1 00
Robert Campbell	Second	Second	1872	New	St. John	Empress	do	do	1 00
John Welsh	First	First	1872	2 Ex.	do	Tug Dot	do	do	1 00
James Leckhart	Second	Second	1872	New	do	Bessie Bee	do	do	1 00
George Haddow	First	First	1868	4	do	Tug Tiger	do	do	1 00
John Cumming	Second	Second	1868	4	do	Tug Hercules	do	do	1 00
Herman Allen	First	First	1870	2	do	Empress	do	do	1 00
Henry A. Hathaway	Second	Second	1864	4	do	David Weston	do	do	1 00
Robert Porter	Second	Second	1868	4	Frederickton	None	do	do	1 00
Frederick Thorne	do	do	1868	4	do	Ida Whither	do	do	1 00
Josiah Matthew	do	do	1868	4	do	Highlander	do	do	1 00
Wm. Elliott	do	do	1868	4	do	City of Frederickton	do	do	1 00
John Christie	First	First	1868	4	do	Forty Second	do	do	1 00
Wm. Atkinson	do	do	1868	4	do	Maryville	do	do	1 00
Justus Gill	Second	Second	1868	4	do	Enterprise	do	do	1 00
Thomas Rouch	First	First	1868	4	do	New Dominion	do	do	1 00
J. A. Gill	Second	Second	1872	New	do	None	do	do	1 00
Thos. C. Atherton	Second	Second	1872	New	do	None	do	do	1 00

James Morris.....	1872	New	St. John.....	Tug Lion.....	do	6 00
J. H. Gill.....	1868	4	Fredericton.....	None.....	do	2 00
Edward Perkins.....	1871	1	St. John.....	Telegraph.....	do	1 00
Wm. Cligg.....	1870	2	Halifax.....	Tug Henry Howen.....	do	1 00
George Burrows.....	1872	2 Ex.	do.....	Goliath.....	do	5 00
Abraham Pierce.....	1869	3	do.....	Ferry.....	do	2 00
Wm. Peirce.....	1869	3	do.....	do.....	do	2 00
Wm. Morton.....	1839	3	do.....	Chabucto.....	do	1 00
Wm. Wilson.....	1871	2	do.....	Sir C. Ogle.....	do	1 00
Edward Griffin.....	1868	4	do.....	Unicorn.....	do	1 00
Archibald Warner.....	1868	4	do.....	Lady Head.....	do	1 00
Wm. Barry.....	1868	4	do.....	do.....	do	1 00
James Marshall.....	1872	New	Pictou.....	Unicorn.....	do	1 50
Robert Russell.....	1868	4	Halifax.....	East Riding.....	do	1 00
T. W. Wells.....	1871	1	Pictou.....	None.....	do	1 00
Wm. Swanton.....	1868	4	do.....	May Flower.....	do	1 00
James Webster.....	1868	4	do.....	Tug Dragon.....	do	1 00
D. McFarlane.....	1871	2	do.....	Conqueror.....	do	1 00
James Turner.....	1868	4	do.....	St. Lawrence.....	do	1 00
John Anderson.....	1868	4	Chatham.....	Tug Tiger.....	do	1 00
George Dick.....	1870	2	Pictou.....	New Era.....	do	1 00
Angus McDonald.....	1870	2	do.....	Tug Dragon.....	do	1 00
John Cummings.....	1868	4	do.....	Prince of Wales.....	do	1 00
Wm. Trail.....	1868	4	do.....	do.....	do	1 00
David Todvin.....	1872	New	P. Ed. Island.....	Point Lewis.....	do	1 60
Michael Frechette.....	1872	12	St. Nicholas.....	St. George.....	do	1 00
Hercule Arcand.....	1860	12	do.....	Tug St. Andrews.....	do	1 00
Victor Charland.....	1868	4	St. John.....	S. S. Secret.....	do	1 50
Pierre Langlois.....	1871	2	Quebec.....	Clyde.....	do	1 50
Ferdinand Demers.....	1869	3	do.....	Tug Powerful.....	do	1 50
Theophile Guilbault.....	1872	New	Champlain.....	Tug Ryan.....	do	1 70
Hidario Hugait.....	1872	New	Levis.....	St. Andrews.....	do	6 00
Cyrille Ray.....	1872	New	Levis.....	William.....	do	5 00
Nemesse Avey.....	1872	New	Levis.....	None.....	do	5 00
Thomas Ryan.....	1872	2 Ex.	Quebec.....	Mersey.....	do	5 00
Uesbre Lapointe.....	1872	2 Ex.	Quebec.....	Fortneuf.....	do	5 00
G. Morreau.....	1860	12	St. Portneuf.....	Eugene.....	do	1 00
Joseph Payon.....	1860	12	Levis.....	Clyde.....	do	1 00
Jean B. Theravault.....	1860	12	do.....	Secret.....	do	1 00
Michael Flemand.....	1871	2	St. Antoine.....	Hero.....	do	1 00
X. Ladour.....	1860	12	Levis.....	Heon.....	do	1 00
Wilfred Lacroix.....	1860	12	do.....	Quebec.....	do	1 00
Charles Echemburg.....	1860	12	St. Nicholas.....	St. Nicholas.....	do	1 00
Michael Aubin.....	1860	12	Levis.....	Maid d'Orleans.....	do	1 00
Ignace St. Pierre.....	1860	12	do.....	Mersey.....	do	1 00
T. Gollie.....	1867	5	Quebec.....	Mari.....	do	1 00
Pierre Audet.....	1860	12	Levis.....	St. Charles.....	do	1 00
Jean Hartran.....	1869	3	Quebec.....	Napoleon.....	do	2 00
Wm. Hartran.....	1860	12	Levis.....	Fire Fly.....	do	1 00
X. Boufort.....	1871	2nd Ex.	do.....	Pictou.....	do	5 00
John E. Can.....	1872	New	do.....	do.....	do	5 00

STEAMBOAT ENGINEERS—EXAMINATIONS AND RENEWALS during Quarter ending 30th September, 1872. (Continued.)

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examin.	Number Renewed.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom Examined.	Date of Exam.	Fee
Thomas Thompson	First.	First.	1870	3	Quebec.	Ricket	Board of S. R. I.	1 January	\$ 1.00
Jean B. Lapointe.	Third	Third	1872	New	do	McIntosh.	do	do	1.00
Hesse Charland.	do	do	1872	New	St. Jean.	Beliveau.	do	do	1.00
René St. Helaire.	First.	First.	1868	3	St. Crux.	Kate.	do	do	1.00
Trefly Paquin.	do	do	1868	4	Deschambault.	City.	do	do	1.00
Ignace Caron	Second.	Third	1872	1	do	Angie.	do	do	1.00
Siméon Delisle	Third	Third	1880	12	do	Nung.	do	do	1.00
René Lord.	First.	First.	1867	5	Lothbieres.	William.	do	do	1.00
O. Langlois.	Second.	Third	1869	3	do	Storm.	do	do	1.00
H. Dupere	Third	Third	1868	12	do	E. P. Dore.	do	do	1.00
François Theriège	Third	Third	1868	5	do	Quebec.	do	do	1.00
Nazaire Lamotte	Second.	Third	1872	New	St. Antoine.	Amant.	do	do	1.00
Lolia Lamotte	Third	Third	1860	12	St. Nicholas.	National.	do	do	1.00
August Colé.	do	do	1860	12	St. Antoine.	Levia.	do	do	1.00
Nazaire Poiré.	First.	First.	1871	4	Quebec.	Mary.	do	do	1.00
Thomas Staveley	do	do	1869	2nd Ex.	Levia.	Petion.	do	do	1.00
Germaine Colé	First.	do	1867	6	Quebec.	Ranger.	do	do	1.00
Thomas Drysdale.	Third	Third	1872	2nd Ex.	Levia.	Napoleon III.	do	do	1.00
Eusebe Houde.	First.	First.	1866	New	Quebec.	Napoleon III.	do	do	1.00
Henry Quinn.	Second.	Second.	1872	1	do	Petion.	do	do	1.00
Alexander Leitch.	Third	Third	1871	New	Levia.	Tag Fairy.	do	do	1.00
Joseph Cayen	do	do	1866	7	Antoine.	Eugene.	do	do	1.00
Flarin Morrean.	Third	Third	1872	7	St. Antoine.	Ranger.	do	do	1.00
Ubald Lamotte.	do	do	1866	7	Storé.	Contest.	do	do	1.00
Pierre Barard	do	do	1866	12	do	Exprom.	do	do	1.00
Honore Bolduc	Second.	Second.	1860	5	Levia.	Quebec.	do	do	1.00
Michel Dion.	do	do	1863	12	do	Hector.	do	do	1.00
Michel Lapointe	do	do	1860	12	do	Powerful.	do	do	1.00
François Lahay.	do	do	1860	12	do	Lord Elgin.	do	do	1.00
Dumas Dupere	First.	First.	1860	12	do	Secret.	do	do	1.00
Edward Many	Third	Third	1868	5	do	Stadthaus.	do	do	1.00
Toussaint Terreault.	do	do	1860	12	do	Voyageur.	do	do	1.00
Elize Rousseau	Second.	Second.	1860	6	St. Jervais.	Angloise.	do	do	1.00
Joseph Tanguay	Third	Third	1867	12	Levia.	Royal.	do	do	1.00
Louis Fréchet	do	do	1860	12	do	Aldon.	do	do	1.00
Siméon Theriault.	do	do	1860	12	do	do	do	do	1.00

Trefle Laerich	Second	1860	12	do	Samson	do	1
Michael Fortier	First	1869	4	Duckland	Marguerit	do	1
Pierre Morin	Third	1869	12	Levis	Advance	do	2
Francis Thibeau	First	1869	9	do	None	do	1
Oreste Lamotte	Second	1872	2nd Ex.	St. Croix	Express	do	5
Ernest Samson	Third	1871	5	Levis	None	do	1
Timaleas Roy	Third	1868	1	do	Artic.	do	1
James Hunter	First	1869	12	Sorel	None	do	3
Mathias Lucas	Second	1869	12	do	Cultivateur	do	1
Olivier Lamotte	Third	1864	9	do	Maid of Canada	do	1
Henri St. Armand	do	1869	12	do	Tourville	do	1
Michael Leclair	Second	1869	12	do	Berthier	do	1
Jean B. Gendron	Third	1863	8	do	Sorel	do	1
A. Lafleche	Second	1869	12	Sorel	Terrebonne	do	1
Jean Fortin	Third	1861	11	do	J. Taylor	do	1
Henri Brulle	First	1871	1	do	Hope	do	1
John Fugrave	Third	1872	New	do	None	do	5
Pierre Leblanc	First	1864	9	do	Dixie	do	1
A. Lenneville	do	1870	3	Three Rivers	Lavalle	do	1
Raphael Lusier	Second	1869	12	Sorel	Fire Fly	do	1
Joseph Denis	do	1869	12	do	Notre Dame	do	1
Charles Clement	First	1869	4	do	Ahemique	do	1
Charles Matte	Second	1869	12	do	John	do	1
X. Jean Marie	First	1869	4	do	Boston	do	1
Alexie Ducharme	Third	1867	7	do	Ferry Boat	do	1
Louis Rondeau	do	1864	9	do	Berthier	do	1
Michael Jervais	Second	1869	12	do	Montreal	do	1
Pierre Trempe	Third	1870	12	do	Champlain	do	1
John Burgess	First	1869	12	do	Meteor	do	1
Peter Dunn	do	1869	12	do	Montreal	do	1
Pierre Ellenburg	Third	1863	8	do	Oregon	do	1
Toussaint Dumas	Second	1869	12	do	Chamby	do	1
Joseph Lachance	do	1871	2 Ex.	do	Montreal	do	5
Michael Sheridan	do	1869	3	do	Montreal	do	1
Narcisse Lamontagne	do	1872	2 Ex.	do	Contest	do	6
Charles Robitaille	do	1871	1	do	St. John	do	8
Joseph Martin	do	1872	1	do	Meteor	do	11
Joseph Rouseau	do	1871	1	do	Tourville	do	6
Edouard Rouseau	do	1872	1	do	Tug Montreal	do	5
Alex. Thibedeau	do	1872	2 Ex.	do	Allion	do	5
Joseph Denis	First	1869	4	do	Vermont	do	1
Edouard Denis	Third	1863	8	do	New York	do	1
Andrew Mill	First	1870	3	Three Rivers	Keppaw	do	1
J. B. Conter	Third	1869	12	Sorel	None	do	1
Placide Robert	do	1867	6	do	Canada	do	1
Jean B. Matte	do	1864	9	do	Quebec	do	1
Olivier Gerard	Third	1872	2 Ex.	do	New York	do	7
Francis Allard	First	1871	2 Ex.	do	Montreal	do	5
Edouard Pitter	Second	1872	2 Ex.	do	New York	do	5
Nazere Guillelout	First	1867	2 Ex.	do	Bismark	do	1
Elie Dulac	Second	1867	2 Ex.	do	Star	do	5

STEAMBOAT ENGINEERS—Examinations and Renewals during Quarter ending 30th September, 1872—(Continued).

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examin.	Number of Renewals.	Place of Residence.	Name of Steamer, by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
John Fontiquay	Second	Second	1869	3	Sorel	Union	Board of S. R. I.	January	1 00
Joseph Guilan	Third	Third	1872	New	do	Berthier	do	do	5 00
Leandre Gouin	do	do	1872	New	do	Victoria	do	do	7 00
Albert Charbonneau	First	First	1870	2	do	Emerald	do	do	1 00
Jean B. Ladueur	do	do	1867	6	do	Bandy	do	do	1 00
Jean Arcand	do	do	1869	4	do	do	do	do	1 00
Pierre Lacroix	Third	do	1865	8	do	Riviere du Loup	do	do	1 00
Louis Lacroix	do	do	1869	4	do	Moulin Ile	do	do	1 00
Narcisse Barbell	Third	Third	1869	4	do	Acher	do	do	1 00
F. Mondeville	Second	do	1860	12	do	Rocky	do	do	1 00
Alex. Martin	Third	do	1866	12	do	Noue	do	do	1 00
Pierre Toin	Second	do	1866	12	do	Victoria	do	do	1 00
Charles Gendron	First	First	1869	12	do	L. Assomption	do	do	1 00
Pierre Melotte	Third	do	1860	12	do	Tourville	do	do	1 00
Asa Martin	First	do	1860	12	do	Bismark	do	do	1 00
Maxime Clement	do	do	1860	12	do	Noue	do	do	1 00
John Charbonneau	Second	Second	1872	New	do	Richelieu	do	do	1 00
Wm. Stedworthy	do	do	1872	New	do	Three Rivers	do	do	1 00
Elie Beauge	Third	Third	1872	New	do	Canada	do	do	7 00
Xavier Charbonneau	Second	do	1860	12	do	Quebec	do	do	5 00
Louis Gagnon	Third	do	1860	12	do	Three Rivers	do	do	1 00
Louis Arsin	Second	do	1860	12	do	New Brunswick	do	do	1 00
Louis Lecombe	Third	do	1861	11	do	Sorel	do	do	1 00
Joe Dion	Third	do	1869	4	do	Albert	do	do	1 00
Wm. Matte	do	do	1872	New	do	L. Assomption	do	do	1 00
Alex. McRobert	Second	do	1860	12	Chateaugay	do	do	do	7 00
Henry Spedding	Third	Third	1872	New	Montreal	M. Tond	do	do	1 00
Samuel Quig	Second	do	1869	10	Beauharnois	Caroline	do	do	5 00
James Quig	do	do	1860	12	do	Champion	do	do	1 00
Jean Corias	do	do	1871	2	Sorel	Aurora	do	do	1 00
Ed. Champagne	Third	Second	1868	5	Montreal	Ferry	do	do	1 00
Joseph Golin	do	do	1872	New	Lachine	Tug Engineer	do	do	1 00
Jean Poiras	First	First	1869	4	do	Maudie	do	do	1 30
Joseph Marchand	Third	do	1867	6	Champlain	Daguer	do	do	1 00
Pierre Langevin	do	do	1872	New	do	M. K. D.	do	do	1 00
Louis Laval	do	do	1868	5	Longueuil	Dredge No. 3.	do	do	5 00

Antoine St. Pierre	do	1868	5	Montreal	City of London	do	1	2 00
John Conolly	First	1867	1	do	None	do	1	6 00
Patrick Doyle	First	1871	1	Pictou	Albion	do	1	1 00
Moderate Paynette	Third	1865	8	Montreal	City of Ottawa	do	1	2 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 31st December, 1872.

Francis Vincent	Second	1860	12	Montreal	Laprairie	Board of S. B. I.	1	4 00
William Fernie	do	1872	New	do	Albion	do	1	5 00
Narcisse Marchand	Third	1872	New	do	Dunbar	do	1	6 00
Boe. Mathew	Second	1860	12	do	Alice	do	1	2 00
Ernest Bellair	First	1869	4	Sorel	McKenzie	do	1	1 00
Ed. Delaire	Third	1862	11	do	Outard	do	1	1 00
Relix Martin	Third	1870	3	do	Messenger	do	1	1 00
Thos. Wadsworth	Second	1862	11	Kingston	Corinthian	do	1	1 00
James Pendergass	Third	1871	1	do	Corinthian	do	1	1 00
F. Chapdelaine	First	1860	12	Sorel	Quebec	do	1	1 00
Napoleon Ouliet	First	1869	4	Montreal	None	do	1	1 00
John R. Ercoyd	First	1870	2 Ex.	do	Dandy	do	1	5 00
Charles Scott	First	1871	2 Ex.	do	Tug John Brown	do	1	5 00
James Wood	Third	1865	8	Brockville	Canada	do	1	8 00
John Glewnon	Second	1861	12	Montreal	None	do	1	8 00
Nicholas Tarnier	Third	1872	New	do	Longueuil	do	1	5 00
F. Chapdelaine	Second	1870	2nd Ex.	Sorel	Quebec	do	1	3 00
Fraser & Lefevre	Third	1874	9	do	Plover	do	1	3 00
Ferdinand Piché	Second	1869	4	Portneuf	Matilda	do	1	3 00
Augustin Valley	Third	1869	1	St. Augustin	None	do	1	5 00
Napoleon Piché	Second	1871	1	Montreal	Jennie	do	1	5 00
Louis Payette	do	1871	1	Decimabaud	Fawn	do	1	10 00
Wm. Gray	Third	1860	12	Hudson	do	do	1	1 00
Jeremie Payette	Second	1860	12	Longueuil	Montville	do	1	1 00
Isid. Lemai	Third	1856	7	Lotbiniere	do	do	1	1 00
Thos. Short	First	1871	3	Montreal	Maid of the Lake	do	1	2 00
X. Garneau	Second	1860	12	St. Antoine	Midge	do	1	5 00
I. B. Squin	First	1870	3rd Ex.	Montreal	Matilda	do	1	1 00
Wm. Black	Third	1869	4	do	None	do	1	2 00
Z. Langlois	do	1865	8	do	do	do	1	2 00
I. P. Sequin	First	1870	3	do	Arct'c	do	1	1 00
Henry Spedding	Second	1872	2nd Ex.	Prescott	Caroline	do	1	1 00
James Dungan	do	1863	10	do	Prince Arthur	do	1	1 00
John Dungan	do	1862	11	do	Jessie Cassels	do	1	5 00
Robert Weir	First	1872	New	Montreal	Lawrence	do	1	5 00
Aber Nichols	Second	1872	New	Carlton Place	Enterprise	do	1	5 00
Jean B. Mahoir	First	1860	12	Berthier	M. K. D.	do	1	1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 31st December, 1872.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examln.	Number of Renewals.	Place of Residence.	Name of Steamer, by whom recommended.	By whom Examined.	Date of Certif.	Fee.
Michael Fitch	.....	Third	1872	New	Ottawa.....	M. K. D.	Board of S. B. I.	January 1	9 cts.
John Cowley	.....	do	1872	New	Beauharnois.....	Mink	do	do	5 00
Jeffrey Power	Third	do	1866	7	Ottawa.....	Well	do	do	5 00
Thos. McElroy	.....	First	1867	6	do	Alexander	do	do	1 00
Alex. Stewart	Second	do	1863	8	do	Mary Ann	do	do	1 00
E. Desjardins	.....	do	1869	12	Sorel.....	Lincoln	do	do	1 00
Pierre Larivier	Third	do	1862	10	Montreal.....	Mail of Canada	do	do	2 00
Nathaniel Drew	.....	do	1862	4th Ex.	do	England	do	do	1 00
Robert Halliday	Second	First	1869	4	Prescott.....	Snow Bird	do	do	1 00
Chas. Ross	.....	Second	1869	4	Pembroke.....	Forest Queen	do	do	1 00
Wm. C. McPherson	.....	First	1872	New	Ottawa.....	Noah	do	do	1 00
Terrance Kamey	.....	Second	1872	New	do	City of Ottawa	do	do	1 00
David McLean	.....	do	1869	4	Pt. Dufour.....	Forest Queen	do	do	1 00
Chas. St. Michel, jun.	Third	Third	1872	New	Aylmer.....	Pembroke	do	do	1 00
John McCan	.....	First	1869	4	Ottawa.....	Rover	do	do	1 00
Noel Beaudet	Third	do	1872	New	do	John Brown	do	do	1 00
O. Gillespie	do	do	1865	8	Sorel.....	Mack	do	do	1 00
Wm. Carier	do	do	1867	7	Cornwall.....	Manitoba	do	do	1 00
Wm. McGowan	.....	Second	1865	New	Kingston.....	Kitty Bird	do	do	1 00
John P. Purcell	First	do	1872	8	Ottawa.....	Queen Victoria	do	do	1 00
James Fitzpatrick	.....	Second	1870	3	Albion.....	Frances	do	do	1 00
C. St. Michel, sen.	Second	do	1865	8	Gablen.....	Jaasn Gould	do	do	1 00
Geo. Ostrant	do	do	1860	12	Ottawa.....	Rover	do	do	1 00
Antoine Racicot	First	do	1863	10	Pt. Dufort.....	Sir J. Young	do	do	1 00
James Hughes	Third	do	1863	10	Ottawa.....	Sorel	do	do	1 00
Isadore Leferre	.....	do	1862	11	Sand Point.....	Allumette	do	do	1 00
William Roger	Second	do	1867	6	Carillon.....	Aid	do	do	1 00
George Bothwell	Third	First	1869	4	Ottawa.....	Swan	do	do	1 00
Wm. Weir	.....	do	1870	2nd Ex.	Ormslow.....	Mink	do	do	1 00
William Gilmore	do	do	1872	3rd. 60 days	Hamilton.....	Advance	do	do	1 00
Richard Bragger	do	do	1872	60 days	Toronto.....	Wm. J. Menall	do	do	1 00
Francis Young	do	do	1872	Renewal	Guelph.....	Fug William Hall	do	do	1 00
Ed Gilbert	Third	do	1872	Renewal	Owen Sound.....	Frances Smith	do	do	1 00
James Crossland	Second	do	1872	60 days	Ellenwall.....	Carriella	do	do	1 00
Philip Crossbie	do	do	1872	Renewal	Bradford.....	Isabella	do	do	1 00
			1872		Wallenburg.....	R. Windsor	do	August 17	1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 31st December, 1872.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examina- tion.	Number of Renewals.	Place of Residence.	Name of Steamer and by whom recommended.	By whom Examined.	Date of Certificate.	Fee. \$ etc.
Oliver Priore	Second	Second	1868	5	Garden Island	City of Hamilton	By the Board	January 1	1 00
Wm. Kennedy	First	Third	1872	New	do	John A.	do	do	1 8 00
John Arnold	First	First	1869	4	Kingston	America	do	do	1 00
James Allen	Second	Second	1869	4	Garden Island	Bay of Quinté	do	do	1 00
Chas. Ayerst	Third	Third	1872	New	Kingston	Norman	do	do	1 7 00
Edward Francis	First	First	1868	5	Leachville	Carleton	do	do	1 2 00
Ed. Adams	do	do	1871	2	Kingston	Gazelle	do	do	1 00
Daniel Maglen	Third	Third	1867	6	Newboro	Ellowood	do	do	1 00
Alexander Hamilton	Third	Third	1872	New	do	do	do	do	1 5 00
James Gullivan	Third	Third	1865	8	Kingston	Elevator	do	do	1 00
Michael McFaul	do	do	1865	8	do	John Bright	do	do	1 00
Thos. O'Reilly	Second	do	1865	2nd Ex.	Garden Island	Alliance	do	do	1 5 00
Alexander Summerville	First	Second	1872	do	Kingston	Panache	do	do	1 5 00
Augustin Valley	Second	Second	1869	4	Ottawa	Forest Queen	do	do	1 00
Patrick Powers	First	First	1868	New	Kingston	Elevator	do	do	1 5 00
James Devlin	Third	Third	1872	4	do	None	do	do	1 00
James Quigley	Third	First	1869	4	do	Carlyle	do	do	1 00
Charles Dwyer	Third	First	1869	5	Belleville	Prince Edward	do	Nov.	27
Alexander Rochfort	Third	First	1867	5	Kingston	Rose	do	do	24
Henry Xonidan	do	do	1872	do	do	Badell	do	do	24
Thos. Murphy	do	do	1872	do	do	do	do	do	27
John McEwan	First	Second	1870	2	do	Norman	do	do	27
Philip Kenny	Second	Second	1871	2	do	Grenville	do	do	27
Robert Hepburn	do	do	1872	New	do	Franklin	do	do	27
William Kelly	First	First	1866	7	Kingston	Wellington	do	do	27
Jacob Matthews	Second	Second	1869	4	Garden Island	Mill	do	do	27
Robert McBride	Third	Third	1863	10	do	Rochester	do	do	27
Archibald McBride	Second	Third	1863	10	do	Magnet	do	do	27
Laughlin Muchmore	do	do	1872	New	do	Carlyle	do	do	27
John McMill	First	First	1872	5th Ex.	Jones' Falls	Government Launch	do	do	27
John Doran	Second	Second	1869	13	Kingston	Water Town	do	do	27
John Booth	do	do	1860	12	Dundas	do	do	do	27
James Murray	do	do	1861	13	Kingston	Sharian	do	do	27
Edward Caulfield	Third	Second	1872	New	Hull, O	Government Launch	do	do	27
John Gallivan	Third	Third	1867	6	Kingston	Rose	do	do	27
William F. Robinson	do	do	1868	4th Ex.	Pictou	Lake Michigan	do	do	27

John Painter	do	1868	First	4	Kingston	Mixer	do	27	1 00
John Smith	do	1870	Second	4th Ex.	Cornwall	partan	do	27	1 00
Patrick Flanagan	do	1872	First	2nd Ex.	Kingston	Lake Michigan	do	27	5 00
Patrick Carmartin	do	1868	First	5	Pictou	Norfolk	do	27	1 00
Peter Lamere	do	1867	Second	6	Prescott	St. Jean Baptiste	do	27	1 00
Patrick Kilcauley	do	1871	Second	1	Kingston	John Bright	do	27	1 00
Duncan McQuay	Third	1866	Second	7	Allan Corners	Jessie Abney	do	27	1 00
George Henderson	do	1869	Second	4	Kingston	Glide	do	27	1 00
Henry Thurston	do	1865	Second	7	do	Elevator	do	27	1 00
John Allen	do	1872	Second	New	do	Water Town	do	27	1 00
Wm. Pluin	do	1872	do	2nd Ex.	do	Mary Ward	do	27	5 00
Wm. Doran	do	1872	do	New	do	Water Town	do	27	5 00
Daniel McEwan	do	1872	do	New	do	None	do	27	5 00
Michael Quinn	do	1872	do	New	do	Wren	do	27	1 00
Geo. Simmons	do	1860	First	13	Montreal	Eleanor	do	27	1 00
G. W. Douglass	do	1871	do	3	Bedford Mills	Champion	do	27	1 00
G. Crandell	Third	1860	do	New	Lindsay	Vanderbilt	do	27	1 00
Charles Mallory	do	1872	Third	13	do	Champion	do	27	1 00
George Keats	First	1871	First	New	do	Samson	do	27	1 00
W. D. Firth	do	1870	do	2	do	None	do	27	1 00
Silas Jacobs	do	1872	do	1st Ex.	Port Perry	Anglo Saxon	do	27	13 00
Leon Dion	do	1872	do	1	Keene	Aln	do	27	1 00
John F. Carrin	do	1872	do	1	Port Perry	Ranger	do	27	1 00
Adolphe Marchand	do	1870	do	2nd Ex.	Quebec	Forest City	do	27	1 00
David Walker	do	1871	First	3	Lindsay	Gommodore	do	27	1 00
James Clark	do	1869	do	2nd Ex.	Cobourg	Nagara	do	27	1 00
James Crossland	do	1872	do	New	Bradford	Isabella	do	27	1 00
James B. Sherwin	do	1872	do	2	Toronto	Novelty	do	27	1 00
Joseph D. Johnson	do	1870	do	2	Belle Ewart	Nettie Grew	do	27	1 00
James McQuade	do	1864	do	8	Collingwood	George Watson	do	27	1 00
Samuel Reynolds	do	1872	do	New	Port Hope	Annie Read	do	27	1 00
John H. Dickson	do	1870	do	2	Kingston	Norseman	do	27	1 00
A. R. Harris	do	1869	do	4	Toronto	Bouquet	do	27	1 00
James Johnson	do	1871	do	1	Garden Island	Norseman	do	27	1 00
Peter Murphy	do	1872	do	New	Belle Ewart	Victoria	do	27	1 00
Atcheson Kerr, sen.	do	1872	do	12	Orillia	Emily May	do	27	1 00
Wm. Wardell	do	1872	do	1	Belle Ewart	Simcoe	do	27	1 00
Joseph G. Cosford	do	1872	do	2nd Ex.	Bradford	Emily Dunham	do	27	1 00
Ell. E. Todman	do	1872	do	2nd Ex.	do	Emily May	do	27	1 00
Wm. Lockertie	do	1872	do	New	Collingwood	Hathaway	do	27	1 00
W. H. Willing	do	1872	do	New	Chatham	Manitoba	do	27	1 00
David McDonald	do	1866	do	New	Windsor	W. J. Ireland	do	27	1 00
James Conborough	do	1872	do	7	Rutherford	Great Western	do	27	1 00
John G. Winter	do	1872	do	1	Chatham	Coral	do	27	1 00
Wm. Weir	do	1872	do	2	Windsor	City of Dresden	do	27	1 00
Thomas Head	do	1862	do	Ntw	do	Transit	do	27	1 00
Addison Haywood	do	1872	do	10	Wallaceburg	Hope	do	27	1 00
Chas. Burrows	do	1870	do	2nd Ex.	do	Philo Bennett	do	27	1 00
Thos. Reynolds	do	1872	do	New	Chatham	do	do	27	1 00
	do	1872	do	New	Chatham	Mill	do	27	1 00

Board of S. B. I. Jan.

STEAMBOAT ENGINEERS.—Examinations and Renewals during Quarter ending 31st December, 1872.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom Examined.	Date of Certificate.	Fees.
Joseph Robert.....	Third	Third	1871	1	Chatham.....	Barge Manitoba.....	Board of S. B. I.	January 1	1 00
Richard Bamfield.....	Third	.....	1866	7	do	Prince Alfred.....	do	do	1 00
Wm. Wain.....	Second	.....	1868	5	Windsor.....	Transit.....	do	do	1 00
H. L. McDonald.....	.....	.....	1871	New	Wallaceburg.....	River King.....	do	do	1 90
J. A. McDougall.....	Second	do	1868	5	do	Tug Hero.....	do	do	1 00
Samuel Protter.....	Third	Third	1872	New	Chatham.....	None.....	do	do	1 50
David Sutherland.....	Second	.....	1860	13	do	J. J. Clark.....	do	do	1 00
Henry Braund.....	Third	.....	1861	12	Sarnia.....	Florence.....	do	do	1 00
Alex. McDonald.....	First	First	1871	1	Windsor.....	Western.....	do	do	1 00
James H. Wilson.....	Third	do	1869	4	Belle Ewart.....	Prince Alfred.....	do	do	1 00
Henry Bartliff.....	First	.....	1867	6	McCarroll.....	Chatham.....	do	do	1 20
George Francombe.....	First	.....	1862	11	Union.....	Windsor.....	do	do	1 00
Adam Kerr.....	Second	Second	1869	3	International.....	Sarnia.....	do	do	1 30
John A. May.....	Second	.....	1864	8	do	do	do	do	1 00
Robert Reilly.....	do	.....	1873	10	Sarnia.....	W. J. Spicer.....	do	do	1 00
Philip Creebie.....	Second	Second	1870	New	Wallaceburg.....	E. Windsor.....	do	do	1 50
Henry Odette.....	First	First	1870	3	Sarnia.....	Sea Gull.....	do	do	1 00
George Beane.....	Third	.....	1867	1	Windsor.....	Detroit.....	do	do	1 30
John Miller.....	First	First	1871	1	do	Union.....	do	do	1 00
Richard Rankin.....	Second	Second	1870	2	Dresden.....	Steam Ferry Jones.....	do	do	1 00
John Hammon.....	.....	.....	1867	6	Windsor.....	Windsor Water Works.....	do	do	1 00
Dugald H. Roberts.....	Second	Second	1872	New	Wallaceburg.....	Belle Taylor.....	do	do	1 50
Wm. Taylor.....	Second	Second	1872	New	Windsor.....	G. W. Western.....	do	do	1 50
Wm. Noble.....	Third	.....	1868	5	do	R. J. Hackett.....	do	do	1 20
J. D. McDonald.....	First	First	1871	2	Fort Lambton.....	J. S. Noyes.....	do	do	1 00
Walter Hunter.....	do	do	1871	7	Wallaceburg.....	Hero.....	do	do	1 00
Duncan F. McDonald.....	do	Third	1871	1	Fort Lambton.....	J. S. Noyes.....	do	do	1 00
Joseph Park.....	Second	.....	1866	9	Windsor.....	Western.....	do	do	1 00
Violet Davis.....	.....	.....	1869	4	Detroit.....	Forest City.....	do	do	1 40
James Gordon.....	Second	Second	1872	New	Amherstburg.....	Minnie Morton.....	do	do	1 30
John Westaway.....	do	do	1865	8	Windsor.....	Dord.....	do	do	1 00
Felix Jones.....	First	First	1869	1	Amherstburg.....	Bob Hackett.....	do	do	1 00
Wm. Atkinson.....	Third	do	1866	6	Chatham.....	Dominion.....	do	do	1 20
John Gowen.....	do	do	1872	New	Detroit.....	Glenatis.....	do	do	1 50
Richard Bragger.....	Second	do	1872	New	Chatham.....	Wm. Hall.....	do	do	1 50
John Haslett.....	Third	.....	1873	4th Ex.	Guelph.....	W. T. Bobb.....	do	do	1 50
					Garden Island.....				

Wm. J. Henry	do	1873	New	Kincardine	Minnie Walker	do	1	5 00
Thomas Barlow	do	1872	2nd Ex.	Kingston	G. B. Rescue	do	1	5 00
James Davis	First	1861	12	do	Dromedary	do	1	11 00
John Mundell	do	1872	2nd Ex.	do	do	do	1	1 00
Henry Burns	Third	1868	5	do	do	do	1	5 00
Robert Kenny	do	1872	New	Hamilton	Ontario	do	1	5 00
John Thorburn	do	1872	New	Kincardine	Herald	do	1	2 00
John Lee	do	1866	7	Southampton	Waubuno	do	1	2 00
Hugh Morrison	Second	1869	4	Dundas	Argyle	do	1	1 00
S. S. Malcolmson	do	1861	12	Hamilton	City of Montreal	do	1	5 00
J. H. Sims	Second	1872	2nd Ex.	Collingwood	Chicora	do	1	5 00
Thomas Pettigrew	do	1869	2nd Ex.	Dundas	Canada	do	1	5 00
John Cockburn	do	1872	2nd Ex.	Port Colborne	Minerva	do	1	5 00
John McCulloch	do	1872	New	do	Minnie Battle	do	1	2 00
George Mitchell	Third	1867	6	do	C. V. Carter	do	1	1 00
Thomas Good	do	1871	1	do	W. H. Routh	do	1	1 00
Wm. McGuinness	First	1864	8	do	Angus McMahon	do	1	1 00
David Wilcox	do	1867	6	do	W. A. Routh	do	1	5 00
J. H. Smith	Third	1871	New	Niagara	City of Toronto	do	1	5 00
James Brown	do	1871	New	Welland	N. A. Laughlin	do	1	1 00
Robert Leech	Second	1871	3	Port Dalhousie	James Morris	do	1	5 00
Reuben Morrison	Third	1870	3rd Ex.	St. Catharines	City of Chatham	do	1	1 00
Walter S. Fletcher	do	1865	8	do	Prince Alfred	do	1	1 00
Charles Sinter	do	1865	11	Dunville	W. A. Routh	do	1	1 00
Wm. Jones	Third	1862	4	do	Tug Jessie	do	1	1 00
John Swanson	First	1869	9	do	Mary Ann	do	1	1 00
Nelson Bush	do	1864	2	Fort Erie	Jessie	do	1	1 00
Freeman Green	Third	1871	2	Dunville	do	do	1	1 00
Robert Cameron	do	1864	9	Port Colborne	Georgia	do	1	1 00
John Chapman	do	1871	2	do	S. Melon	do	1	1 00
Samuel R. Norcross	Second	1863	10	Dunville	M. A. Routh	do	1	1 00
R. K. Norcross	do	1869	4	Welland	W. T. Robb	do	1	1 00
Sophia Miller	First	1865	8	Port Robinson	St. Clair	do	1	1 00
Wm. Bampton	do	1868	5	do	Shagge King	do	1	1 00
John Ross	do	1868	4	do	Second	do	1	1 00
Wm. Ross	do	1869	8	St. Catharines	Lincoln	do	1	1 00
Wm. Walsh	Second	1869	10	Welland	St. Clair	do	1	1 00
James Bampton	do	1863	3	Port Dalhousie	Tug Lion	do	1	1 00
Alfred Coons	Third	1870	New	Peterboro	Metamora	do	1	5 00
Charles Cowan	do	1872	2nd Ex.	Welland	None	do	1	5 00
Samuel Montgomery	do	1872	New	do	St. Clair	do	1	5 00
George Zoor	Second	1871	4	Hamilton	Minnie F. Parsons	do	1	1 00
Thomas Leetch	Third	1872	7	do	Oprey	do	1	1 00
Thomas Scott	do	1869	4	Lachine	East	do	1	5 00
Moses Flondin	Third	1866	2nd Ex.	Howe Island	Argyle	do	1	1 00
Alexander McArthur	Second	1870	11	Howe Island	Enterprise	do	1	1 00
Duncan McLines	Third	1871	5	St. Catharines	Argyle	do	1	1 00
Francis Munroe	Second	1862	New	do	Dalhousie	do	1	1 00
Thomas Hickey	Third	1872	5	Port Dalhousie	T. R. Second	do	1	5 00
Alfred Chambers	do	1872	New	do	Enterprise	do	1	5 00
John Davidson	Third	1872	New	do	do	do	1	5 00

STEAMBOAT ENGINEERS—Examinations and Renewals during Quarter ending 31st December, 1872.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom examined.	Date of Certificate.	Fees.
Wm. Townsend.	Third		1871	12	Port Dalhousie.	S. Perry.	Board of S. R. C.	January	1 00
Erastus Banks.		do	1871	2	do	Young Lion.	do	do	1 00
Alexander Ramsay.	do		1868	5	St. Catharines.	Metanova.	do	do	1 00
Richard Fairbairn.	do		1869	4	do	do	do	do	1 00
Wm. Jackson.	Second		1869	4	Petersville.	Whistle Wing.	do	do	1 00
James Edgar.	Third		1872	New	do	Jessie.	do	do	1 00
Thomas Maclear.	do		1872	4th Ex.	St. Catharines.	Danforth.	do	do	1 00
Peter Lawrence.	do		1869	3rd Ex.	Welland.	J. N. Y.	do	do	1 00
Robert J. Black.	do	Second	1870	5	St. Catharines.	Europe.	do	do	1 00
Thomas Dewey.	do	do	1872	New	do	Isaac May.	do	do	1 00
Wm. Sutherland.	Third		1872	1	Kingston.	None.	do	do	1 00
George Morgan.	do	do	1872	New	St. Catharines.	Gun Boat Reserve.	do	do	1 00
James Doherty.	Third		1872	New	do	None.	do	do	1 00
David Kerr.	do	do	1872	New	Hamilton.	do	do	do	1 00
Wm. F. Faulds.	do	First.	1869	4th Ex.	St. Catharines.	Europe.	do	do	1 00
Edward Long.	Third		1872	New	do	do	do	do	1 00
Wm. Anderson.	do	do	1872	4	Port Colborne.	San Perry.	do	do	1 00
George Scanan.	do	Second.	1871	1	Port Hope.	Knight.	do	do	1 00
Emerson Wright.	do	do	1869	5	St. Catharines.	Island Queen.	do	do	1 00
Daniel Munroe.	do	Third.	1872	New	Glencoe.	Chisora.	do	do	1 00
T. W. Hugo.	do	do	1869	4th Ex.	Kingston.	Lincoln.	do	do	1 00
Samuel Fletcher.	do	Second.	1871	2nd Ex.	St. Catharines.	America.	do	do	1 00
James H. Taylor.	Second		1863	10	do	Enterprise.	do	do	1 00
Alexander Guthrie.	do	First.	1872	New	do	do	do	do	1 00
R. McNaught.	Third		1869	4	do	None.	do	do	1 00
J. A. Mills.	do	do	1869	4	do	Ocean.	do	do	1 00
Wm. Calcutt.	do	Second.	1868	5	do	Jake Ontario.	do	do	1 00
John Stevens.	do	First.	1866	7	do	City of Chatham.	do	do	1 00
Walter Leavelle.	do	do	1871	2nd Ex.	Port Robinson.	Lake Ontario.	do	do	1 00
George Ross.	do	Second.	1872	New	do	Tug Ross.	do	do	1 00
Angus Turner.	do	Third.	1865	8	Kincardine.	M. R. King.	do	do	1 00
Isaac Dunham.	do	do	1868	5	Owen Sound.	Kincardine.	do	do	1 00
James Gillie.	do	First.	1868	2	Kingston.	Trusdell.	do	do	1 00
Robert Wright.	do	do	1871	New	Port Robinson.	M. R. King.	do	do	1 00
John E. Bell.	do	Second.	1872	5	St. Catharines.	Enterprise.	do	do	1 00
John Burton.	do	First.	1869	13	Montreal.	Prince of Wales.	do	do	1 00

STATEMENT of Duties and Fees collected during year ended 30th June, 1872, on
account of the Steamboat Inspection Fund.

ONTARIO.

	\$ cts.	\$ cts.
Amhersburg	65 00	
Belleville	133 00	
Brockville	18 70	
Chatham	210 60	
Chippawa	49 80	
Cobourg	40 40	
Colborne	74 30	
Dundas	20 10	
Dunnville	63 60	
Goderich	86 90	
Hamilton	168 40	
Hope	177 88	
Kingston	1,058 50	
Napancee	9 20	
Ottawa	493 40	
Owen Sound	89 40	
Pictou	76 10	
Prescott	19 60	
St. Catharines	630 30	
Sarnia	131 05	
Stanley	135 40	
Toronto	1,715 60	
Wallaceburg	220 60	
Windsor	10 60	
		5,698 43

QUEBEC.

Dundee	2 00	
Montreal	2,558 70	
Quebec	1,601 80	
Three Rivers	14 00	
		4,176 50

NEW BRUNSWICK.

Chatham	89 40	
Fredericton	24 20	
Newcastle	18 00	
St. George	15 50	
St. John	1,063 43	
Woodstock	7 00	
		1,217 53

NOVA SCOTIA.

Annapolis	6 80	
Halifax	200 60	
Pictou	317 40	
Yarmouth	12 20	
		537 00

MANITOBA.

Winnipeg	81 00	
		11,710 46

APPENDIX No. 23.

REPORT OF THE CHAIRMAN OF THE BOARD OF EXAMINERS OF
MASTERS AND MATES, FOR THE FISCAL YEAR ENDED
30TH JUNE, 1872.

HALIFAX, June 30th, 1872.

SIR,—I herewith submit, for your information, the Annual Report of the Board of Examiners of Masters and Mates, for the fiscal year ended 30th June, 1872.

The Board of Examiners of Masters and Mates sat at the Ports of St. John, N.B., Halifax, N.S., and Quebec, for the purpose of examining candidates for certificates of competency as masters and mates, as follows :—

At St. John, N.B., on 7th and 8th August, 1871 :

Masters who obtained Certificates.....	5
Mates do do	1

two candidates for masters' certificates having failed.

At St. John, N.B., on 14th and 15th September :

Masters who obtained certificates.....	4
Mates do do	2

two candidates for masters' certificates having failed.

At St. John on the 18th and 19th October :

Masters who obtained certificates.....	7
Mates do do	3

two candidates for masters' certificates and one candidate for a mate's certificate having failed.

On the 28th October, Captain John Taylor, of Halifax, was examined by Captain G. A. McKenzie and myself, and being found duly qualified, received his certificate, he having been appointed an examiner at that port.

At St. John on 20th and 21st November :

Masters who obtained certificates.....	6
Mates do do	3

one candidate for a master's certificate having failed.

Having received instructions from you to proceed to the Port of Quebec to enquire into the qualifications of the examiners you had been pleased to appoint, I repaired thither, taking Captain Cronk, of St. John, with me, and on the 27th November examined Commander E. D. Ashe, R.N., and Captain Anselme Marmen, of the Government steamer *Druid*, of Quebec ; they being found duly qualified received their certificates. The Board sat at that port on the 28th and 29th November, but no candidates presented themselves for examination.

At St. John, on the 14th and 15th December :

Masters who obtained certificates.....	6
Mates do do	Nil.

one candidate for a master's certificate having failed.

At Halifax, on 10th January :

Master who obtained a certificate.....	1
Mates do do	Nil.

At St. John, on the 20th and 22nd January :

Masters who obtained certificates.....	8
Mate do do	1

At Halifax, N.S., on the 8th and 9th of February :

Masters who obtained certificates.....	2
Mates do do	Nil.
At St. John, N.B., on 14th and 15th February :	
Masters who obtained certificates.....	8
Mates do do	3
two candidates for master's certificates having failed.	
At Halifax, N.S., on 27th and 28th February :	
Master who obtained certificate	1
Mate do do	1
one candidate for a master's certificate having failed.	
At Quebec, on 9th and 11th March :	
Masters who obtained certificates.....	12
Mates do do	Nil.
one candidate for a master's certificate having failed.	
At St. John, N.B., on 30th March, and 1st April :	
Masters who obtained certificates.....	6
Mates do do	2
At Halifax, N.S., on 8th and 9th April :	
Masters who obtained certificates	8
Mates do do	Nil.
one candidate for a master's certificate having failed.	
At Halifax, N.S., on the 10th and 11th April :	
Master who obtained a certificate.....	1
Mate do do	1
two candidates for masters' certificates having failed.	
At Quebec on 2nd and 3rd May :	
Masters who obtained certificates.....	2
Mates do do	Nil.
one candidate for a master's certificate having failed.	
At St. John, N.B., on 9th and 10th May :	
Masters who obtained certificates.....	8
Mates do do	4
three candidates for masters' certificates having failed.	
At St. John, N.B., on 11th May :	
Masters who obtained certificates.....	Nil.
Mates do do	Nil.
one candidate for a master's certificate having failed.	
At Halifax, N.S., on 14th and 15th May :	
Masters who obtained certificates.....	4
Mates do do	Nil.
three candidates for masters' certificates having failed.	
At St. John, N.B., on 21st and 22nd May :	
Masters who obtained certificates.....	2
Mates do do	2
four candidates for masters' certificates, and one for a mate's certificate, having failed.	
At St. John, N.B., on 6th and 7th June :	
Masters who obtained certificates.....	7
Mate do do	1
one candidate for a master's certificate having failed.	
At Halifax, N.S., 12th and 13th June :	
Masters who obtained certificates.....	5
Mate do do	1
three candidates for masters' certificates having failed.	
At St. John, on the 27th and 28th June :	

Masters who obtained certificates.....	5
Mate do do	1
five candidates for masters' certificates and two for mates' certificates having failed.	
Thus one hundred and eight candidates for the grade of master, and twenty-six for that of mate, have received certificates of competency during the fiscal year.	
Sixty-three masters' and seven mates' certificates of service have been issued during the year; forty-eight at Halifax, eleven at St. John, and eleven at Quebec.	
In closing my report, I would respectfully suggest that the rule be amended as regards the time required for servitude as mate, and that one year as second mate, and one year as mate shall only be required, as in England, of those who are candidates for the Master's certificate of competency.	

I have, &c.,

P. A. SCOTT,
Chairman.

The Hon. Peter Mitchell,
Minister of Marine and Fisheries

SUPPLEMENTARY REPORT FOR THE HALF YEAR ENDED THE 31st DECEMBER, 1872.

The Board of Examiners of Masters and Mates, sat at the Ports of St. John, Halifax, and Quebec, as follows :—

At Halifax, on 1st and 2nd July :	
Masters who obtained certificates.....	6
Mates do do	Nil.
one candidate for a master's certificate having failed.	
At Quebec, on the 6th and 8th July :	
Masters who obtained certificates.....	3
Mate do do	1
At St. John, on the 12th and 13th July :	
Masters who obtained certificates.....	11
Mates do do	2
three candidates for masters' certificates and one candidate for mate's certificate having failed.	
At Halifax, on the 17th and 18th July :	
Masters who obtained certificates.....	7
Mates do do	Nil.
three candidates for masters' certificates having failed.	
At St. John, on the 26th and 27th July :	
Masters who obtained certificates.....	9
Mate do do	1
two candidates for masters' certificates having failed.	
At Halifax, on the 13th and 14th August :	
Masters who obtained certificates.....	8
Mates do do	Nil.
At Quebec, on the 19th and 20th August :	
Master who obtained a certificate.....	1
Mates do do	3
At St. John, on the 24th and 26th August :	
Masters who obtained certificates.....	14
Mates do do	2

five candidates for masters' certificates, and one candidate for mate's certificate having failed.

At Halifax, on the 7th and 9th September :

Masters who obtained certificates	3
Mates do do	2

one candidate for a master's certificate, and one candidate for a mate's certificate having failed.

At St. John, on the 13th and 14th September :

Masters who obtained certificates	8
Mates do do	2

five candidates for masters' certificates having failed.

At Quebec, on the 24th and 25th September :

Masters who obtained certificates	4
Mates do do	Nil.

one candidate for a master's certificate having failed.

At Halifax, on the 30th September, and 1st October :

Masters who obtained certificates	10
Mates do do	2

two candidates for masters' certificates having failed.

At St. John on the 27th and 28th September :

Masters who obtained certificates	10
Mates do do	Nil.

seven candidates for masters' certificates having failed.

At St. John, on the 19th and 21st October :

Masters who obtained certificates	8
Mate do do	1

eight candidates for masters' certificates having failed.

At Halifax on the 28th and 29th October :

Masters who obtained certificates	2
Mates do do	Nil.

seven candidates for masters' certificates having failed.

At Quebec, on the 11th and 12th November :

Masters who obtained certificates	2
Mate do do	1

At St. John, on the 14th and 15th November :

Masters who obtained certificates	8
Mate do do	1

one candidate for a master's certificate having failed.

At Halifax, on the 19th and 20th November :

Masters who obtained certificates	6
Mates do do	Nil.

five candidates for masters' certificates having failed.

At St. John, on the 3rd and 4th December :

Masters who obtained certificates	3
Mates do do	2

five candidates for masters' certificates, and one candidate for a mate's certificate, having failed.

At Halifax, on the 6th and 7th December :

Masters who obtained certificates	Nil.
Mates do do	Nil.

four candidates for masters' certificates having failed.

At St. John, on the 19th and 20th December :

Masters who obtained certificates	3
Mate do do	1

two candidates for masters' certificates having failed.

At Halifax, on the 23rd and 24th December :

8—30

Masters who obtained certificates.....	4
Mates do do	Nil.

Thus one hundred and thirty candidates for the grade of master and twenty-one for that of mate have received certificates of competency during six months ended 31st December 1872.

Two hundred and twenty-two masters and mates certificates of service have been issued during the half year ended the 31st December 1872. 232 at Halifax, 54 and St. John, and 12 at Quebec.

A list of the certificates of competency and service granted to masters and mates by the Department up to the 1st Jan. 1873, is hereto appended.

A statement of expenditure is likewise appended.

I have, &c.,

P. A. SCOTT,

Chairman.

LAST OF CERTIFICATES of Competency and Service granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certificate.	Date.	Name.	Grade. Competency.	Address.	Where Examination was Passed.	Fee.
1	1871.	Lauchlin McLean	Master	Pictou Island Co. Pictou, N.S.	St John	\$ cts.
2	1 Sept.	James Fenwick Whitney	do	Quaco, St. John, N.B.	do	10 00
3	do 16	Oliver Goldsmith Horbell	do	Main St., Portland, St. John, N.B.	do	10 00
4	do 16	Eurias Spicer	do	Advocate Harbor, Parlbore, Nova Scotia	do	10 00
5	do 16	Leander Morris	do	do	do	10 00
6	do 16	James Thomas Bustin	Mate	8. Horsfield St., St. John, N.B.	do	5 00
7	do 27	Hallet Whitlock	Master	St. Andrews, N.B.	do	10 00
8	do 27	Lauchlin McLean	Mate	St. James St., Carleton, St. John, N.B.	do	5 00
9	do 27	Delaney Terry Faulkner	Master	Hantsport, N.S.	do	10 00
10	do 27	William Leander McLellan	do	Maitland, N.S.	do	10 00
11	do 27	Rufus Outhouse	do	Bocabec, Charlotte Co., N.B.	do	10 00
12	do 27	John Lloyd Healey	Mate	12. Exmouth St., St. John, N.B.	do	5 00
13	Oct.	William Wilson Morris	Master	Advocate Harbor, N.S.	do	10 00
14	do 28	Arthur Paget Owen	Mate	St. David's St., St. John, N.B.	do	5 00
15	do 28	Stewart Gould	Master	Noel, Hants Co., N.S.	do	10 00
16	do 28	Major Andre Brown	do	61. Duke's St., St. John, N.B.	do	10 00
17	do 28	James Maynes	do	City Road, St. John, N.B.	do	10 00
18	do 28	James Warren Penery	do	West Isles, N.B.	do	10 00
19	do 28	Arthur Penery	do	Prince William St., St. John, N.B.	do	5 00
20	do 28	Jacob Edwin Grafton	Mate	Advocate Harbor, N.S.	do	10 00
21	do 28	Edmund Johnston Ward	Master	Mecklenburg St., St. John, N.B.	do	5 00
22	do 28	Thomas Clark	Mate	Granville Ferry, N.S.	do	10 00
23	Nov.	William Smith	Master	Pictou, N.S.	do	10 00
24	do 28	Ephraim White	do	Canaan, N.S.	do	10 00
25	do 28	Joseph Edwards Wood	do	Brooklyn, Yarmouth Co., N.S.	do	10 00
26	do 28	Samuel Pitman	do	No. 12 District, Advocate, N.S.	do	10 00
27	do 28	Abraham Knowlton	do	110, Prince William St., St. John, N.B.	do	10 00
28	do 28	James Johnston Jones	Mate	Granville, N.S.	do	6 00
29	do 28	Howard Landwick Croscup	do	Tower St., Carleton, St. John, N.B.	do	5 00
30	do 28	Jarvis Henry Wilson	do	Westmoresland Pt., Westmoresland, N.B.	do	5 00
31	do 28	Joseph Frederick Carter	do	Horton Landing, Kings Co., N.S.	do	10 00
32	Dec.	William Putnam	Master	Maitland, Hants Co., N.S.	do	10 00
33	do 28	Alfred Rathborne Curry	do	149, Grafton St., Halifax, N.S.	do	10 00
34	do 28	Edward Archibald	do	King St., St. John, N.B.	do	10 00
35	do 28	William Shampier	do	do	do	10 00

LIST OF CERTIFICATES of Competency and Service granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certificate	Date.	Name.	Grade. — Competency.	Address.	Where Examination was passed.	Fee.
36	Dec. 6 1871.	George Coalfield	Master	Hantsport, N.S.	St. John, N.B.	\$ cts.
37	do 23	Robert McKenzie Pengilly	do	190, Prince William St., St. John, N.B.	do	10 00
38	Jan. 30	Charles Harrington McLeod	do	Water St., Pictou, N.S.	Halifax, N.S.	10 00
39	do 30	Andrew Robertson	do	Queen St., St. John, N.B.	St. John, N.B.	10 00
40	do 30	Francis Drake Homer	Mate	Yarmouth, N.S.	do	5 00
41	do 30	William Smith Kitchen	Master	Pictou, Co. Pictou, N.S.	do	10 00
42	do 30	James Roberby Kitchen	do	New Glasgow, N.S.	do	10 00
43	do 30	Charles Perslow	do	Main St., St. John, N.B.	do	10 00
44	do 30	Israel Kelly Moore	do	Brooklyn, Yarmouth, N.S.	do	10 00
45	do 30	James Douglas Smith	do	Matland, Hants Co., N.S.	do	10 00
46	do 30	Neil McIntosh	do	Lockhartville, N.S.	do	10 00
47	do 30	William Solomon McLeod	do	Liverpool, N.S.	do	10 00
48	Feb. 13	Hugh McKenzie	do	Water St., Pictou, N.S.	Halifax, N.S.	10 00
49	do 19	William Henry Keating	do	No. 11, Salter St., Halifax, N.S.	do	10 00
50	do 27	Alfred Morrell	do	Brooklyn, Yarmouth, N.S.	St. John, N.B.	10 00
51	do 27	Matthew Adams	do	Church St., Portland, St. John, N.B.	do	10 00
52	do 27	William Alonzo Steeves	do	Connell's Block, Woodstock, N.B.	do	10 00
53	Feb. 27	Robert Geo. W. Thompson	Master	Protection Street, Carleton, St. John, N.B.	St. John, N.B.	10 00
54	do 27	Edward Wallace McFaden	Mate	Bear River, Digby Co., Nova Scotia, N.S.	do	5 00
55	do 27	Adam Brown	do	St. John, N.B.	do	10 00
56	do 27	Robert Armstrong	do	50 Leinster Street, St. John, N.B.	do	10 00
57	do 27	Charles Fowler Ruggles	do	Charlotte Street, St. John, N.B.	do	10 00
58	do 27	Clarendon Stephen Young	do	St. George, N.B.	do	10 00
59	do 27	Ernest Romeo Kersten	Mate	Water Street, Pictou, N.S.	do	5 00
60	do 27	Christian Olsen	Master	8 George St., St. John, N.B.	do	10 00
61	Mar. 11	Moyle Rudolf	Mate	Linensburg, N.S.	Halifax, N.S.	5 00
62	do 11	Chapman Cameron Dawson	Master	Little Harbor, Pictou Co., N.S.	do	10 00
63	do 16	Thomas William Ellis	do	2 St. Nicholas Street, Paines, Quebec	Quebec	10 00
64	do 16	Louis Honorius Leclanche	do	St. Michele, Bellechasse Co., Quebec	do	10 00
65	do 16	Noise Leblanc	do	Village Lozon, St. Joseph, Quebec	do	10 00
66	do 16	Jean Ste. Fortras	do	St. Thomas, County of Montmagny, Quebec	do	10 00
67	do 16	Basil Derooy, jun.	do	L'Islet, Quebec	do	10 00
68	do 16	Amibal Baquet	do	St. Francis Street, St. Roch, Quebec	do	10 00
69	do 16	Joseph Bourgard	do	St. Michele, County of Bellechasse, Quebec	do	10 00
70	do 16	Theophile Derooy	do	L'Islet, L'Anse à Gilles, Quebec	do	10 00

71	do	16	David Bernier	do	L'Ange à Gilles, L'Islet, Quebec.	do	10 00
72	do	16	Edmond Laroche	do	St. Michele, County of Bellechasse, Quebec	do	10 00
73	do	16	Soren Madsen	do	No. 9, St. Margaret Street, St. Roch, Quebec	do	10 00
74	April	18	William Hill Townshend	do	Rectory, Amherst, N. S.	St. John	10 00
75	do	8	Albert Desbriay Munro	do	Clementport, N. S.	do	10 00
76	do	8	Nelson Richardson	do	Wood Point, Sackville, N. B.	do	10 00
77	do	8	James Edward Brown	do	Digby, N. S.	do	5 00
78	do	8	William Otis Hughes	Master	Digby, N. S.	do	10 00
79	do	8	Matthew Thompson	do	Johnston, Queens Co., N. B.	do	10 00
80	do	8	Jacob Koop Winchester	do	Smith's Cove, Digby Co., N. S.	do	10 00
81	do	8	Albert Clements McNeil	do	Fort Gilbert, Digby Co., N. S.	do	10 00
82	do	8	Gilbert Shaw	do	71 Maitland Street, Halifax, N. S.	Halifax	10 00
83	do	8	William Grant	do	Maitland, N. S.	do	10 00
84	do	8	Hugh Fraser	do	Marigonish, Pictou, N. S.	do	10 00
85	do	19	Matthew Stewart Graham	do	Antigonish, N. S.	do	10 00
86	do	19	Olia Bathburn	do	Horton Landing, Kings Co., N. S.	do	10 00
87	do	19	Rufus Michener	do	Mount Denison, Hants Co., N. S.	do	10 00
88	do	19	Joseph Jones Leeson	do	Port Medway, N. S.	do	10 00
89	do	19	John Demetrius Morine	do	Liverpool, N. S.	do	10 00
90	do	19	James Shearer	do	Water Street, Pictou, N. S.	do	10 00
91	do	19	Thomas Whalen	do	Pictou, County of Pictou, N. S.	do	5 00
92	May	7	Joseph Dumas	Master	St. Sauveur, Quebec	Quebec	10 00
93	do	7	Eliezer Bernier	do	L'Islet, Montmagny, Quebec	do	10 00
94	do	18	George Whitney Blaney	do	Barton, Digby County, N. S.	St. John	10 00
95	do	18	Andrew Waldon Upham	do	82 Princess Street, St. John, N. B.	do	10 00
96	do	18	Milledge Munri	do	Margaretville, N. S.	do	10 00
97	do	18	Andrew Allen Haskins	do	Deer Island, West Isles, N. B.	do	10 00
98	do	18	William Henry Edgett	do	Hillsborough, Albert County, N. B.	do	10 00
99	do	18	Rardall Alfred Morris	do	Advocate Harbour, Parrsboro, N. S.	do	10 00
100	do	18	Edward Haney	do	Weymouth, N. S.	do	5 00
101	do	18	John Wilnot Buck	do	Dorchester, Westmorland County, N. B.	do	5 00
102	do	18	James Joseph Guidley	do	29 Dock Street, St. John, N. B.	do	5 00
103	do	18	Edwin Abram Holder	do	King Street, Carleton, St. John, N. B.	do	5 00
104	do	18	Wellington Cook Morrell	Master	Westport, Brier Island, N. S.	do	10 00
105	June	23	Seward Dodd	do	Sydney, Cape Breton	Halifax	10 00
106	May	25	Alexander McDonald	do	Abercomby Point, Pictou, N. S.	do	10 00
107	do	25	George Edward Barker	do	Hanteport, N. S.	do	10 00
108	do	25	Arthur William Flemming	do	Quebec, P. Q.	do	10 00
109	do	25	Caleb Grozier Collins	do	Quebec, P. Q.	do	10 00
110	June	5	Thomas Edward Cann	do	Milton, Yarmouth, N. S.	St. John	10 00
111	do	5	George Edgar Fitzgerald	do	Seamans Street, Portland, N. B.	do	10 00
112	do	5	Charles Francis Kay	do	Straight Shore, Margareville, N. B.	do	5 00
113	do	5	James Edward Fitzgerald	do	Milkiab, King Co., St. John, N. B.	do	5 00
114	do	19	Charles Gibbon	Master	Brooklyn, Yarmouth, N. S.	do	10 00
115	do	19	James Hilton Pitman	do	Yarmouth, N. S.	do	10 00
116	do	19	Henry Dudman	do	Hopewell, Albert Co., N. B.	St. John, N. B.	10 00
117	June	19	Charles Dugreen Robinson	Master	St. Martins, N. B.	do	5 00
118	do	19	Benjamin Griffin Forbes	do	London River, Shelburne Co., N. S.	do	10 00
119	do	19	Alexander Rose McKenzie	Master	St. Martins, Quasco, N. B.	do	10 00
120	do	19	Elisha James Brown	do	Hopewell, Albert Co., N. B.	do	10 00
121	do	19	Willard Othiel Wright	Master	do	do	5 00

LIST OF CERTIFICATES OF Competency and Service granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certif.	Date.	Name.	Grade. — Competency.	Address.	Where Examination was Passed.	Fee.
122	June 26	George Reedy Kitchen	Master	Pictou, N.S.	Halifax, N.S.	\$ etc.
123	do 26	Joseph Charles Ashwood	do	No. 8 Dresden Row, Halifax, N.S.	do	10 00
124	do 26	Charles Watson Cadfray	do	Sydney, Cape Breton	do	10 00
125	do 26	Thomas James Wilson	do	23 Star Street, Halifax, N.S.	do	10 00
126	July 8	Richard Bennett	Mate	Main Street, Portland, N.B.	St. John, N.B.	5 00
127	do 8	Thomas Rufus Hamilton	Master	Hopewell, Albert Co., N.B.	do	10 00
128	do 8	John Cook	do	Harbourville Albert Co., N.B.	do	10 00
129	do 8	Thomas Benjamin Jones	do	156, Queen Street, St. John, N.B.	do	10 00
130	do 8	Charles Johnston	do	St. George, N.B.	do	10 00
131	do 8	Francis Nash	do	Only Street, Ottawa, Canada	do	10 00
132	do 8	William Alexander Whittier	do	5 Bishop Street, Halifax, N.S.	Halifax, N.S.	10 00
133	do 8	Peter Nelson	do	166 Lower Water Street, Halifax, N.S.	do	10 00
134	do 8	William Washington Bartling	do	Liverpool, N.S.	do	10 00
135	do 8	Seth McC. Bartling	do	do	do	10 00
136	do 8	John Jack	do	Pictou, N.S.	do	10 00
137	do 8	Alley Kennedy	do	7 Bedford Row, Halifax, N.S.	do	10 00
138	do 11	William McGregor	do	Pictou, N.S.	Quebec	10 00
139	do 11	Robert McLeod	do	Fishers Grant, Pictou, N.S.	do	10 00
140	do 11	Joseph Oresime Resaume	do	Gabriel, St. Rocks, Quebec	do	10 00
141	do 11	John Smith	do	Union Street, St. John, N.B.	St. John, N.B.	10 00
142	do 18	Amel Gray	do	Weymouth, Digby Co., N.S.	do	10 00
143	do 18	Charles Harris Hall	Mate	43 Leinster Street, St. John, N.B.	do	5 00
144	do 18	Charles Petersen	do	Main Street, Portland, St. John, N.B.	do	5 00
145	do 18	John James Shields	Master	Portland, St. John, N.B.	do	10 00
146	do 18	Joseph Allen Sanders	do	Bridge town, Co. Annapolia, N.S.	do	10 00
147	do 18	Charles Randall Robbins	do	Trivetton, Long Island, Digby, N.S.	do	10 00
148	do 18	John Wentworth Dakin	do	Sandy Cove, Digby Co., N.S.	do	10 00
149	do 18	Wellington Ring	do	Carleton, St. John, N.B.	do	10 00
150	do 18	Charles William Bacon	do	Hopewell Hill, Albert Co., N.B.	do	10 00
151	do 18	Charles Edward Kiley	do	Digby Co. Digby, N.S.	do	10 00
152	do 18	James Williams Crabbe	do	Brooklyn, Yarmouth Co., N.S.	do	10 00
153	do 18	Charles Thomas Fraser	do	Parish, N.S.	do	10 00
154	do 27	Joel Scott	do	Noel, Hants Co., N.S.	Halifax, N.S.	10 00
155	do 27	Richard Mickle	do	Pictou, N.S.	do	10 00
156	do 27	Robert Patterson	do	159 Water Street, Pictou, N.S.	do	10 00

157	do	27	Edwin Holmes	do	.....	Canning, Cornwallis, N.S.	do	10 00
158	do	27	Geo. Soule Douglas	do	.....	Matland, Hants Co., N.S.	do	10 00
159	do	27	Daniel Munro	do	.....	Pictou, N.S.	do	10 00
160	Aug	2	Handley Parker Cogswell	do	.....	Cornwallis, Kings Co., N.S.	St. John, N.B.	10 00
161	do	2	Edwin Saunders Williams	do	.....	Union Street, St. John, N.B.	do	5 00
162	do	2	Packer Porter Allen	Mate	.....	Brooklyn, Yarmouth Co., N.S.	do	10 00
163	do	2	Peter Frederick Johanson	do	.....	40 Prince William Street, St. John, N.B.	do	10 00
164	do	2	Archibald McNeil	do	.....	Barton, Digby Co., N.S.	do	10 00
165	do	2	Hazen Chalmers	do	.....	130 St. James Street, St. John, N.B.	do	10 00
166	do	2	John Thomas Salter	do	.....	Farnboro, Cumberland Co., N.S.	do	10 00
167	do	2	Albert Hensgar Burns	do	.....	Weymouth, Digby Co., N.S.	do	10 00
168	do	2	James Andrew Corbett	do	.....	Folly Village, Londonderry, N.S.	do	10 00
169	do	2	Joseph Crandall Bray	do	.....	Harvey, Albert Co., N.B.	do	10 00
170	do	12	Onesime Ernster	Mate	.....	L'ance & Gile, L'Islet, Q.	Quebec	5 00
171	do	19	Thomas O'Brien	Master	.....	Barrington, N.S.	Halifax	10 00
172	do	19	Warren Homer Doane	do	.....	Wallace, N.S.	do	10 00
173	do	19	Joseph Henry Ivey	do	.....	Pictou, N.S.	do	10 00
174	do	19	Samuel Henry Stamp	do	.....	do	do	10 00
175	do	19	John McKenzie	do	.....	do	do	10 00
176	do	19	Isaac Foley	do	.....	Walton, Hants Co., N.S.	do	10 00
177	do	19	John Archibald Fisher	do	.....	Pictou, N.S.	do	10 00
178	do	19	Albert Nelson	do	.....	Avondale, Hants Co., N.S.	do	10 00
179	do	22	Charles William McQuarrie	Mate	.....	River John, Pictou, N.S.	Quebec	10 00
180	do	22	George Thomas Lighton	do	.....	do	do	5 00
181	do	22	Samuel Edgar Wither	do	.....	Dorchester, N.B.	do	5 00
182	do	22	James Bones Sutherland	Master	.....	Pictou, N.S.	do	10 00
183	Aug	31	John Burris	do	.....	Moncton, N.B.	Halifax	10 00
184	do	31	Henry Herbert Freeze	do	.....	Moncton, N.B.	St. John	10 00
185	do	31	Peter Anderson	Mate	.....	Hampton, King's Co., N.B.	do	5 00
186	do	31	Albert Morris	Master	.....	14, Brittain St., St. John, N.B.	do	10 00
187	do	31	George Nelson Dakin	do	.....	Advocate Harbor, Farnboro, N.S.	do	10 00
188	do	31	Robert Shields	do	.....	Sandy Cove, Digby Co., N.S.	do	10 00
189	do	31	Charles Dixon	do	.....	Charles St. Portland, St. John, N.B.	do	10 00
190	do	31	George Bliss Reynolds	do	.....	Sackville, N.B.	do	10 00
191	do	31	Thomas Weldon Flewelling	do	.....	St. George, N.B.	do	10 00
192	do	31	Patrick Casely	do	.....	Main St., Carleton, St. John, N.B.	do	10 00
193	do	31	Thomas O'Rourke	do	.....	41, Prince William St., St. John, N.B.	do	10 00
194	do	31	Robert Fletcher Warrington	do	.....	20, Ward St., St. John, N.B.	do	10 00
195	do	31	Charles Drury Allen	Mate	.....	32, Front St., Digby, N.S.	do	5 00
196	do	31	John McManus	Master	.....	Frederickton, N.B.	do	10 00
197	do	31	Peter McArthur Smith	do	.....	70, Carmarthen St., St. John, N.B.	do	10 00
198	do	31	George William Baker	do	.....	Matland, Hants Co., N.S.	do	10 00
199	do	31	George Eccles Sands	do	.....	Yarmouth, N.S.	do	10 00
200	Sept	16	Charles Nelson Fielding	do	.....	St. John, N.B.	do	10 00
201	do	16	Frederick Currie	do	.....	Shantport, N.S.	Halifax	10 00
202	do	16	Frederick Lemont Walley	Mate	.....	Sheet Harbor, N.S.	do	10 00
203	do	16	Daniel O'Neil	do	.....	Newport, Hants Co., N.S.	do	5 00
204	do	16	Andrew Little	Master	.....	Pictou, N.S.	do	10 00
205	do	23	Robert Anderson	do	.....	Londonderry, N.S.	do	10 00
206	do	23	Lawrence Andrew Halcrow	do	.....	Bay Versey, N.B.	St. John	10 00
207	do	23	Charles Laymond	Mate	.....	King St., St. John, N.B.	do	5 00
					.....	Matland, Yarmouth, N.S.	do	5 00

LIST OF CERTIFICATES OF Competency and Service granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1878.

No. of Certif.	Date.	Name.	Grade. Competency.	Address.	Where Examination was Passed.	Fee.
1872.						
208	Sept. 23	John Fraser Farrow.	Master.	Sandy Cove, Digby Co., N.S.	St. John, N. B.	\$ 10.00
209	do 23	Thomas Cady.	do	St. John's Newfoundland.	do	10 00
210	do 23	Arthur Wesley Burns.	Mate.	Digby, N.S.	do	5 00
211	do 23	Henry Augustus Everett.	Master.	Plymouth, Digby Co., N.S.	do	10 00
212	do 23	William Daniel Browne.	do	69, Charlotte St., St. John, N.B.	do	10 00
213	do 23	James Fiskwick Zachary.	do	123, Prince William St., St. John, N.B.	do	10 00
214	do 23	Neils Michael Neilson.	do	40 Waterloo St., St. John, N.B.	do	10 00
215	do 30	Napoleon Pelletier.	do	Ross & Co., Peter St., Quebec.	Quebec	10 00
216	do 30	Joseph Thibault.	do	L'Islet, Quebec.	do	10 00
217	do 30	Joseph Michon, jun.	do	St. Thomas, Co. Montmagny, Quebec.	do	10 00
218	do 30	Ydyne Michon.	do	do do	do	10 00
219	Oct.	Edmund Harr O'Neill.	do	Dorchester, Co. Westmoreland, N.B.	St. John, N. B.	10 00
220	do	John William Holmes.	do	Hantsport, Hants Co., N.S.	do	10 00
221	do 10	Thomas Glibert Ruggles.	do	Westport, Digby Co., N.S.	do	10 00
222	do 10	Peter Waldemar Malmquist.	do	St. John, N.B.	do	10 00
223	do 10	Thomas Mitchell.	do	Campo Bello, N.B.	do	10 00
224	do 10	Benjamin Henry Ruggles.	do	Westport, Driver Island, N.S.	do	10 00
225	do 10	Peter Carr.	do	77, St. James St., St. John, N.B.	do	10 00
226	do 10	E. Collins.	do	Liverpool, N.S.	do	10 00
227	do 10	Edward August DeZeter.	do	123, Prince William St., St. John, N.B.	do	10 00
228	do 10	Smith Cardow.	do	St. Andrew's, Co. Charlotte, N.B.	do	10 00
229	do 10	Alexander Crow Vance.	Mate.	Londonderry, N.S.	Halifax	10 00
230	do 10	Ronald McDonald.	do	Pictou, N.S.	do	5 00
231	do 10	Walter Flavin.	Master.	30, Maynard St., Halifax, N.S.	do	5 00
232	do 10	Brenton Halliburton Thompson.	do	Five Islands, Colchester Co., N.S.	do	10 00
233	do 10	Neil Currie.	do	Maitland Hants Co., N.S.	do	10 00
234	do 10	Joseph Benjamin Horn.	do	Pictou, N.S.	do	10 00
235	do 10	William Thompson.	do	7, Moran St., Halifax, N.S.	do	10 00
236	do 10	William Thompson.	do	Economy, Colchester Co., N.S.	do	10 00
237	do 10	Charles Herbert Innes.	do	107, Lower Water St., Halifax, N.S.	do	10 00
238	do 10	George Henry Selig.	do	Lunenburg, N.S.	do	10 00
239	do 10	James Whidden.	do	159, Lower Water St., Halifax, N.S.	do	10 00
240	do 25	John Gardner Charlton.	do	Harberville, Kings Co., N.S.	St. John, N. B.	10 00
241	do 25	William Sidney Myhrall.	do	Fredericton, N.B.	do	10 00
242	do 25	Abner Nelson.	do	Shubenacadie, Hants Co., N.S.	do	10 00

243	do	James Hugh McLeod	do	St. George, N.B.	do	10 00
244	do	Lorenzo Sabine Kimball	do	St. Andrew's Co, Charlotte, N.B.	do	10 00
245	do	Daniel Leary	do	St. John, N.B.	do	10 00
246	do	Henry Walter Reese	Master	48, Prince William St., St. John, N.B.	do	5 00
247	do	Joseph Armin Starratt	Master	Hopewell Hill, N.B.	do	10 00
248	do	25 Elias Brunon	do	Annopolis, N.S.	do	10 00
249	Nov.	9 Edward O'Bryan	do	44, Lockman St., Halifax, N.S.	Halifax	10 00
250	do	James Henry Smeltzer	do	Mahone Bay, N.S.	do	10 00
251	do	William Honore Bernier	do	Cape St. Ignace, Co. Montmagny, Quebec	Quebec	10 00
252	do	Ferdinand Lenuieux	do	St. Valier, Co. Bellechasse, Quebec	do	10 00
253	do	Ludger Boldue	Master	Berthier, Co. Montmagny, Quebec	do	5 00
254	do	Albert Ernest Payson	Master	Westport, N.S.	St. John	10 00
255	do	William Laverly	do	Portland, St. John, N.B.	do	10 00
256	do	James William Abbott	do	Harton, Digby Co., N.B.	do	10 00
257	do	Alden J. West	do	Harvey, Albert Co., N.B.	do	10 00
258	do	Jeremiah Joseph Brownell	do	Bay Verte, N.B.	do	10 00
259	do	Raymond Parker	do	Ten Mile Creek, Simonds' Parish, N.B.	do	10 00
260	do	James Frank Hoar	do	City Road, St. John, N.B.	do	10 00
261	do	Samuel Sheridan	Master	Hopewell, Albert Co., N.B.	do	5 00
262	do	Daniel McKinnon	Master	Horton Bluff, King's Co., N.S.	Halifax	10 00
263	do	John William Bolton	do	Antigonish, N.S.	do	10 00
264	do	William McElbenny Urquhart	do	Dock Street, St. John, N.B.	do	10 00
265	do	Angus Nelson Smith	do	Folly Village, Londonderry, N.S.	do	10 00
266	do	William John Howard	do	Barrington, Co. Shelburne, N.S.	do	10 00
267	do	Michael Morriuey	do	135, Lockman St., Halifax, N.S.	do	10 00
268	Dec.	13 John Edwin Campbell	do	Prince William St., St. John, N.B.	St. John	10 00
269	do	Nathan Joseph Lockhart	do	Sackville, N.B.	do	10 00
270	do	13 Jacob Muldoon	Master	Horton, N.S.	do	5 00
271	do	13 Samuel Scott	Master	98, Carmarthen St., St. John, N.B.	do	10 00
272	do	13 John Barry	Master	Weymouth, N.S.	do	5 00
273	do	Frederick William Wilber	Master	St. John, N.B.	do	5 00
274	do	Josiah Hucere Tait	do	Hopewell, Albert Co., N.B.	do	10 00
275	do	John Jacob Olburn	do	Parralero, N.S.	do	10 00
276	do	1872.	do	St. John, N.B.	do	10 00
277	do	John McDonald	do	124, Matland St., Halifax, N.S.	Halifax	10 00
278	Jan.	7 Ephraim Oxner	do	Lanenburg, N.S.	do	10 00
279	do	Lemuel McFarlane	do	Liverpool, N.S.	do	10 00
280	do	Benjamin Vaughan Holmes	do	Hantsport, N.S.	do	10 00
281	do	Amount of fees received from candidates who failed to obtain their certificates				2,580 00
						335 00
						\$2,915 00

LIST OF CERTIFICATES OF SERVICE granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certif. cases.	Date.	Name.	Grade, — Service.	Address.	When Examination was Passed.	Fee. \$ etc.
1872.						
1	Mar. 27	Charles Wesley Burns	Master	Weymouth, N.S.	Halifax	5 00
2	do 27	Albert Cain	do	Yarmouth, N.S.	do	5 00
3	do 27	John Ledlow	do	Moore Harbor Road, Liverpool, N.S.	do	5 00
4	do 27	William Henry Mara	do	No. 9 Granville St., Halifax, N.S.	do	5 00
5	do 27	Thomas O'Brien	do	Beaver River, Yarmouth, N.S.	do	5 00
6	do 27	Joseph Desjardins	do	St. André, Co. Kamouraska, Quebec	Quebec	5 00
7	do 27	Thomas Connell	do	St. Charles St., Quebec	do	5 00
8	April 7	Dorival P. Hicks	do	Main St., Liverpool, N.S.	Halifax	5 00
9	do	Randal Wolf	do	Liverpool, N.S.	do	5 00
10	do	Donald Chisholm McIntosh	do	Main St., Liverpool, N.S.	do	5 00
11	May 25	James Gerroir	do	Farraboro', N.S.	do	5 00
12	do	Daniel Cameron Fraser	do	Arichat, C.B.	do	5 00
13	do 25	William Reed Pottle	do	Pictou, N.S.	do	5 00
14	June 3	James Foote	do	Main St., Liverpool, N.S.	do	5 00
15	do 3	James Cochran	do	Beeches Road, Pictou, N.S.	do	5 00
16	do 3	James Cochran	do	Mount Denison, Falmouth, N.S.	do	5 00
17	do 3	Stephen Gerroir	do	Arichat, N.S.	do	5 00
18	do 3	Maran Landry	do	Cow Bay, Cape Breton, N.S.	do	5 00
19	do 5	Edouard Boulanger	do	St. Thomas, Montmagny, Quebec	Quebec	5 00
20	do 12	John Chisholm	do	Harbor Bouché, Arichat, N.S.	Halifax	5 00
21	do 19	John Edward Gilliat	do	Clémentport, Co. Annapolis, N.S.	do	5 00
22	do 19	John Barrett	do	Arichat, N.S.	do	5 00
23	do 19	William Hiel Robinson	do	Hopewell Cape, Albert Co., N.B.	St. John	5 00
24	do 19	John Richard Robarts	do	Sand Point, Carleton, N.B.	do	5 00
25	do 19	Henry Wharton	do	Brooklyn, near Liverpool, N.S.	Halifax	5 00
26	do 19	William Forster	do	Farraboro', N.S.	do	5 00
27	do 19	William Voorhis Spurr	do	Clément's West, Annapolis Co., N.S.	do	5 00
28	do 20	George Alexander McLeod	do	New London, P.E.I.	do	5 00
29	do 26	William Fanning	do	42, Starr St., Halifax, N.S.	do	5 00
30	do 26	Silas James Crosby	do	Yarmouth, N.S.	do	5 00
31	do 26	Albert Carl Langenberg	do	Ingles St., Halifax, N.S.	do	5 00
32	do 26	Thomas Vickers	do	No. 74 Matland St., Halifax, N.S.	do	5 00
33	do 26	George Washington Hopkins	Master	132 Lockman St., Halifax, N.S.	do	3 00
34	do 29	Charles Peters	do	Bridgeport, Co. Annapolis, N.S.	St. John	5 00
35	do 29	Charles LeBlanc	do	Arichat, Cape Breton, N.S.	Halifax	5 00

36	do	Simon Ferris	do	Arichat, N.S.	do	5 00
37	do	William Allen O'Dell	do	Hillsburg, Co. Digby, N.S.	do	3 00
38	do	Charles Thomas Saunders	Master	Sandy Cove, Digby Co., N.S.	do	5 00
39	do	George Jacques	do	Yarmouth, N.S.	Quebec	5 00
40	do	Napoleon Pelletier	do	City of Quebec, Quebec	do	5 00
41	do	Sauve Nelson Durkee	do	Yarmouth, N.S.	do	5 00
42	do	Joseph Dorman	do	Hantsport, Hants Co., N.S.	do	5 00
43	do	Cyrilce Derby	Master	L'Islet, Montmagny, Quebec	Halifax	3 00
44	do	Hugh Pothé	do	Pictou, N.S.	Quebec	5 00
45	July	James Wilkie	do	Bridgewater, N.S.	do	5 00
46	do	William Johnson Welch	do	Westport, N.S.	St. John	5 00
47	do	William James Arenburg	do	Lunenburg, N.S.	Quebec	5 00
48	do	John Fulton McLellan	do	59 Water St., Halifax, N.S.	Halifax	5 00
49	do	Mathew Ritchie Doane	do	9 Pleasant St., Halifax, N.S.	do	5 00
50	do	Charles Randall Lewis	do	Weymouth, N.S.	do	5 00
51	do	William Charlton Warner	do	Port Gilbert, Digby Co., N.S.	do	5 00
52	do	Robert Kirk	do	Yarmouth, N.S.	do	5 00
53	do	Nehemiah Messick	do	Granville, N.S.	St. John	5 00
54	do	Elisha Stiles Fouse	Master	Sackville, N.B.	Halifax	5 00
55	do	Cyrille Hoffman	do	Berthier, Montmagny, Quebec	St. John	5 00
56	do	Hazen Chalmers	do	131 St. James St., St. John, N.B.	Quebec	5 00
57	do	Richard Laidlaw	do	Liverpool, N.S.	Halifax	5 00
58	do	James Watt	do	Digby, N.S.	St. John	3 00
59	do	Samuel James Cameron	do	Pictou, N.S.	Quebec	5 00
60	do	James Clark Rogers	Master	St. John, N.B.	St. John	5 00
61	do	John Butler	do	Barrington, N.S.	do	5 00
62	do	Robert Nutter	do	Carleton, St. John, N.B.	do	5 00
63	do	George Alexander Hughes	do	Digby, N.S.	Halifax	3 00
64	do	Patrick Sullivan	do	Canning, Cornwallis, N.S.	do	5 00
65	do	David Freeman	do	Liverpool, N.S.	do	5 00
66	do	Henry Brady	Master	Cheverie, Hants Co., N.S.	do	5 00
67	do	Henry Hatton McLean	do	Pictou, N.S.	do	5 00
68	do	Edward Barker	do	Hantsport, N.S.	do	5 00
69	July	William Turner	Master	109 Gottenzen Street, Halifax, N.S.	Halifax	5 00
70	do	Edward Strum	do	Lunenburg, N.S.	do	5 00
71	do	Charles Calvin Hilton	do	Main street, Liverpool, N.S.	do	5 00
72	do	John Frederick Wolfe	do	Port Medway, N.S.	do	5 00
73	do	Thomas J. Carroll	do	Parishboro, N.S.	do	5 00
74	do	Joseph Henry Morchouse, jun.	do	Sandy Cove, Digby County, N.S.	do	5 00
75	do	Edward Alonzo Armstrong	do	Port Medway, N.S.	do	5 00
76	do	Harvard Eldridge	do	Sandy Cove, Digby County, N.S.	do	5 00
77	Aug.	Charles Stewart	do	125 Prince William Street, St. John, N.B.	St. John	5 00
78	do	Daniel Linchan	do	Paradise Row, Portland, St. John, N.B.	do	5 00
79	do	Simon Tufts	do	162 Prince William Street, St. John, N.B.	do	5 00
80	do	Amel vella Gow	do	Parishboro, N.S.	Halifax	5 00
81	do	Joseph Henry Langley	do	Bridgewater, N.S.	do	5 00
82	do	John Jenkins	do	St. John's Newfoundland	Quebec	5 00
83	do	John Thompson Carnichael	do	Pictou, N.S.	do	5 00
84	do	John James Irving	do	Pictou, N.S.	do	5 00
85	do	Eldredge Day	do	Liverpool, N.S.	Halifax	5 00
86	do	William Zenos Smith	do	Liverpool, N.S.	do	3 00

LIST OF CERTIFICATES OF SERVICE granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certif.	Date.	Name.	Grade. Service.	Address.	When Examination was Passed.	Fee.
87	1872.	Learchus Davidson...	Master	15 Dundonald Street, Halifax, N.S.	Halifax...	\$ cda.
88	do 10.	William Simpson...	do	9 St. James Street, St. John, N.B.	do	5 00
89	do 10.	Abner Lewis...	do	Weymouth, Digby County, N.S.	do	5 00
90	do 10.	Norman Mullen...	Mate.	Vernmouth, Digby County, N.S.	do	3 00
91	do 10.	John O. Dell...	Master	Hillsburgh, N.S.	do	3 00
92	do 10.	Robert Wilson...	do	Campobello, Charlotte County, N. B.	do	5 00
93	do 13.	William Seward...	do	Pictou, N. S.	do	5 00
94	do 13.	William Balmer...	do	St. John, N. B.	Quebec	5 00
95	do 16.	John Kendrick Butler...	do	Vernmouth, N. B.	Halifax	5 00
96	do 16.	Amos Crane Corbett...	do	Five Islands, N. B.	do	5 00
97	do 16.	Reuben Tucker Morehouse...	do	Sandy Cove, Digby County, N. S.	St. John	5 00
98	do 19.	Thomas Clare...	do	Hantsport, N. S.	Quebec	5 00
99	do 19.	Jacob Potter...	do	Canning, Cornwallis, N. S.	Halifax	5 00
100	do 20.	George Henry Chisholm...	do	Port Medway, N. S.	do	5 00
101	do 22.	John Walsh...	Mate.	24 Tanager Street, Halifax, N. S.	do	3 00
102	do 22.	Hyacinth Martell...	Master	Arichat, N. S.	do	5 00
103	do 22.	Joseph Thibault...	do	L'Islet, Quebec	Quebec	5 00
104	do 22.	George Cocker Hawes...	do	Bermingham Street, Halifax, N. S.	Halifax	5 10
105	do 22.	James Ryan...	do	No. 4 Kent Street, Halifax, N. S.	do	5 00
106	do 22.	Joseph Benjamin Tooker...	do	Canning, Kings County, N. S.	do	5 00
107	do 24.	George McCulloch...	do	Matland, Hants County, N. S.	do	5 00
108	do 24.	Jeffrey Babin...	do	Pictou, N. S.	Quebec	5 00
109	do 28.	Michael A. McDonald...	Mate	Pictou, N. S.	do	3 00
110	do 28.	William Wallace Saunders...	do	Sandy Cove, Digby County, N. S.	Halifax	3 00
111	Sept.	Alonso Hindon...	Master	Amatola, N. S.	St. John	5 00
112	do 2.	Oliver Douglas Barbour...	do	No. 6 Smith Street, St. John, N. B.	do	5 00
113	do 2.	Thomas Ryan...	do	Sydney, Cape Breton	Halifax	5 00
114	do 2.	Charles Smith...	do	St. John, N. B.	St. John	5 00
115	do 2.	Thomas Larson...	do	Paradise Row, Portland, N. B.	do	5 00
116	do 2.	Adolf Bergman...	Mate	14 Harding Street, St. John, N. B.	do	3 00
117	do 2.	Joseph Neptune...	do	Sand Point, Carleton, N. B.	do	3 00
118	do 2.	Thomas James Perry...	do	Arcadie, Yarmouth, N. S.	Halifax	5 00
119	do 7.	Simon Herman...	Master	Leunenburg, N. S.	do	5 00
120	do 7.	Jonathan Bradshaw...	do	Cornwallis, Kings County, N. S.	do	5 00
121	do 9.	Richard Lapine McCulloch...	do	113 Gottengen Street, Halifax, N. S.	do	5 00

122	do	George Peters	159 Lower Water Street, Halifax, N.S.	do	5 00
123	do	Isaac Hopkins	42 Spring Row, Baltimore	do	5 00
124	do	Joseph Wilson	Barrington, N.S.	do	5 00
125	do	Donald Math	Buddick, Cape Breton	do	5 00
126	do	Thomas R	No. 14 Fawson Street, Halifax, N.S.	do	5 00
127	do	Benjamin	Yarmouth, N.S.	do	5 00
128	do	George Morrel	Brooklyn, Yarmouth, N.S.	St. John	5 00
129	do	Joseph Parker	Yarmouth, N.S.	do	5 00
130	do	Michael Carroll	176 Allmarle Street, Halifax, N.S.	Halifax	5 00
131	do	Heath Callum	Pictou, N.S.	do	5 00
132	do	William Williams	Lockport, Shelburne County, N.S.	do	5 00
133	do	William Gillen	New Glasgow, Pictou County, N.S.	do	5 00
134	do	Marr	159 Lower Water Street, Pictou, N.S.	do	5 00
135	do	William Re	Parrsboro, N.S.	do	5 00
136	do	James W. Nick	Yarmouth, N.S.	do	5 00
137	do	Edward Strum, jun.	Parrsboro, N.S.	do	5 00
138	do	Isaac Lent	Liverpool, N.S.	do	5 00
139	do	Charles Ganton	Mahone Bay, N.S.	do	5 00
140	do	John McDonald	Clements West, Annapolis, N.S.	do	5 00
141	do	John William McNamara	County Cape Breton, N.S.	do	5 00
142	do	Alexander McIsaac	Parrsboro, N.S.	do	5 00
143	do	Wellington Eagles	Antigonish, N.S.	do	5 00
144	do	John Congdon	Wolfville, Township of Horton, N.S.	do	5 00
145	do	John Roberts Rees	Londonerry, N.S.	do	5 00
146	do	John Leary	Main Street, Liverpool, N.S.	do	5 00
147	do	James Henry Copeland	Sandy Cove, Digby County, N.S.	do	5 00
148	do	Edward McKay	St. Andrews, N.B.	St. John	5 00
149	do	Thomas McBay	Sandy Cove, Digby County, N.S.	Quebec	5 00
150	do	William Vail	Rodney Street, Carleton, St. John, N.B.	St. John	5 00
151	do	Alonzo Calder	St. John, N.B.	do	5 00
152	do	Hilare Melancon	Fairhaven, Deer Island, Charlotte County, N. R.	do	5 00
153	do	Solomon Edgett	Soulinville, Clare, N.S.	St. John	5 00
154	do	Joehua McCallion	Riverside, Hopewell, N.S.	Halifax	5 00
155	do	Cowen Doulay Grant	Pugwash, N.S.	do	5 00
156	do	Archibald McGlashen	Port Hawkesbury, N.S.	do	5 00
157	do	Leonard Nickerson	Pictou, N.S.	do	5 00
158	do	Alexander McIntosh	Barrington, N.S.	do	5 00
159	do	George Henry Fader	Hubberts, Pictou County, N.S.	do	5 00
160	do	John James Graham	Hubberts Cove, Halifax, N.S.	do	5 00
161	do	Robert Beeler	Pictou, N.S.	do	5 00
162	do	George Grant	Bear River, Annapolis County, N.S.	do	5 00
163	do	Daniel Calvin Stuart	Weymouth, Digby County, N.S.	do	5 00
164	do	Lewis Henry Wharton	Church Street, Liverpool, N.S.	do	5 00
165	do	Charles Robert Foster	Liverpool, N.S.	do	5 00
166	do	Henry Clarence Stuart	Beach Meadows, Queen's County, N.S.	do	5 00
167	do	Lawrence Girvoir	Pictou, N.S.	do	5 00
168	do	Lewis Spangale	Arichat, N.S.	do	5 00
169	do	Amos Botsford Chandler Dotten	Liverpool, N.S.	do	5 00
170	do	Amos Botsford Chandler Dotten	Wallace, N.S.	do	5 00
171	do	Amos Botsford Chandler Dotten	Parrsboro, N.S.	Quebec	5 00
172	do	Amos Botsford Chandler Dotten	Halifax	Halifax	5 00

LIST OF CERTIFICATES of Service granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certif.	Date.	Name.	Grade. — Service.	Address.	When Examination was Passed.	Fee.
	1872.					\$ cts.
87	Aug. 10.	Leachus Davidson.	Master	15 Dundonald Street, Halifax, N.S.	Halifax.	5 00
88	do 10.	William Simpson.	do	9 St. James Street, St. John, N.B.	do	5 00
89	do 10.	Abner Lewis.	do	Weymouth, Digby County, N.S.	do	5 00
90	do 10.	Norman Mullen.	Mate.	Weymouth, Digby County, N.S.	do	3 00
91	do 10.	John O. Dell.	Master	Hillsburgh, N.S.	do	5 00
92	do 10.	Robert Wilson.	do	Campbellton, Charlotte County, N.B.	do	5 00
93	do 13.	William Seward.	do	Pictou, N.S.	do	5 00
94	do 13.	William Bulmer.	do	St. John, N.B.	Quebec	5 00
95	do 16.	John Kendrick Butler.	do	Yarmouth, N.B.	Halifax	5 00
96	do 16.	Annes Crane Corbett.	do	Five Islands, N.B.	do	5 00
97	do 16.	Reuben Tucker Morehouse.	do	Sandy Cove, Digby County, N.S.	St. John	5 00
98	do 19.	Thomas Clare.	do	Hantsport, N.S.	Quebec	5 00
99	do 19.	Jacob Potter.	do	Canning, Cornwallis, N.S.	Halifax	5 00
100	do 20.	George Henry Chisholm.	do	Port Medway, N.S.	do	5 00
101	do 22.	John Walsh.	Mate.	24 Finner Street, Halifax, N.S.	do	5 00
102	do 22.	Hyacinth Martell.	do	Arichat, N.S.	do	5 00
103	do 22.	Joseph Thibault.	do	Islet, Quebec	Quebec	5 00
104	do 22.	George Cocker Hawes.	do	Birmingham Street, Halifax, N.S.	Halifax	5 00
105	do 22.	James Ryan.	do	No. 4 Kent Street, Halifax, N.S.	do	5 00
106	do 22.	Joseph Benjamin Tooker.	do	Canning, Kings County, N.S.	do	5 00
107	do 22.	George McCulloch.	do	Maitland, Hants County, N.S.	do	5 00
108	do 24.	Jeffrey Babin.	do	Pictou, N.S.	Quebec	5 00
109	do 24.	Michael A. McDonald.	Mate	Pictou, N.S.	do	3 00
110	do 28.	William Wallace Saunders.	do	Sandy Cove, Digby County, N.S.	Halifax	5 00
111	Sept. 2.	Alonso Hindon.	Master	Annapolis, N.S.	St. John	5 00
112	do 2.	Oliver Douglas Barburie.	do	No. 6 Smith Street, St. John, N.B.	do	5 00
113	do 2.	Thomas Ryan.	do	Sydney, Cape Breton	Halifax	5 00
114	do 2.	Charles Smith.	do	St. John, N.B.	St. John	5 00
115	do 2.	Thomas Larson.	do	Paradise Row, Portland, N.B.	do	5 00
116	do 2.	Adolf Hegman.	Mate	14 Harding Street, St. John, N.B.	do	3 00
117	do 2.	Joseph Neptune.	do	Sand Point, Carleton, N.B.	do	3 00
118	do 2.	Thomas James Perry.	do	Arcadie, Varnmouth, N.S.	Halifax	5 00
119	do 7.	Simon Hernan.	Master	Leunenburg, N.S.	do	5 00
120	do 7.	Jonathan Bradshaw.	do	Cornwallis, Kings County, N.S.	do	5 00
121	do 9.	Richard Lapina McCulloch.	do	13 Gottengen Street, Halifax, N.S.	do	5 00

122	do	9.	George Peters	do	159 Lower Water Street, Halifax, N.S.	do	5 00
123	do	9.	Isaac Hopkins	do	42 Spring Row, Baltimore	do	5 00
124	do	9.	Joseph Wilson	do	Barrington, N.S.	do	5 00
125	do	9.	Donald Matheson	do	Baddeck, Cape Breton	do	5 00
126	do	9.	Thomas Blagdon	do	No. 14 Fawson Street, Halifax, N.S.	do	5 00
127	do	9.	Benjamin Davis	do	Yarmouth, N.S.	St. John	5 00
128	do	9.	George Edward Morrell	do	Brooklyn, Yarmouth, N.S.	do	5 00
129	do	10.	Joseph Barras Parker	do	Yarmouth, N.S.	Halifax	5 00
130	do	10.	Michael Carroll	do	176 Allenmarle Street, Halifax, N.S.	do	5 00
131	do	12.	Hector McCallum	Master	Pictou, N.S.	do	3 00
132	do	12.	William Williams	do	Lockport, Shelburne County, N.S.	do	5 00
133	do	12.	William Gillen	do	New Glasgow, Pictou County, N.S.	do	5 00
134	do	12.	Martin Murphy	do	159 Lower Water Street, Halifax, N.S.	do	5 00
135	do	12.	William Henry Deane	do	Yarmouth, N.S.	do	5 00
136	do	12.	William Redding	do	Yarmouth, N.S.	do	5 00
137	do	12.	James W. Nickerson	do	Yarmouth, N.S.	do	5 00
138	do	12.	Edward Strum, jun.	do	Malone Bay, N.S.	do	5 00
139	do	12.	Isaac Lent	do	Clements West, Annapolis, N.S.	do	5 00
140	do	13.	Charles Ganion	do	Arichat, Richmond County, Cape Breton, N.S.	do	5 00
141	do	13.	Thomas McDonald	do	132 Lower Water street, Halifax, N.S.	do	5 00
142	do	16.	John William McNamara	do	Parrsboro, N.S.	do	5 00
143	do	13.	Alexander McIsaac	do	Antigonish, N.S.	do	5 00
144	do	16.	Wellington Eagles	do	Wolfville, Township of Horton, N.S.	do	5 00
145	do	16.	John Congdon	do	Londonberry, N.S.	do	5 00
146	do	18.	John Roberts Rees	do	Main Street, Liverpool, N.S.	do	5 00
147	do	23.	John Leary	do	Sandy Cove, Digby County, N.S.	St. John	5 00
148	do	18.	James Henry Copeland	Master	St. Andrews, N.B.	Quebec	5 00
149	do	23.	Edward McKay	do	Sandy Cove, Digby County, N.S.	St. John	5 00
150	do	23.	Thomas McBay	Master	Rodney Street, Carleton, St. John, N.B.	do	5 00
151	do	23.	William Veal	do	St. John, N.B.	do	5 00
152	do	23.	Alonzo Calder	do	Fairhaven, Deer Island, Charlotte County, N. E.	do	5 00
153	do	23.	Hilaire Melancon	do	Southernville, Clara, N.S.	do	5 00
154	do	23.	Solomon Edgett	Master	Riverside, Hopewell, N.S.	St. John	5 00
155	do	23.	Joshua McCallion	Master	Pugwash, N.S.	Halifax	5 00
156	do	23.	Cowen Donley Grant	do	Port Hawkesbury, N.S.	do	5 00
157	do	23.	Archibald McGlothen	Master	Pictou, N.S.	do	5 00
158	do	23.	Leonard Nickerson	do	Barrington, N.S.	do	5 00
159	do	23.	Alexander McIntosh	Master	Carribou, Pictou County, N.S.	do	5 00
160	do	23.	George Henry Fader	Master	Hubbert's Cove, Halifax, N.S.	do	5 00
161	do	23.	John James Graham	Master	Pictou, N.S.	do	5 00
162	do	23.	Robert Beeler	do	Rear River, Annapolis County, N.S.	do	5 00
163	do	23.	George Grant	do	Weymouth, Digby County, N.S.	do	5 00
164	do	27.	Daniel Calvin Stuart	do	Church Street, Liverpool, N.S.	do	5 00
165	do	27.	Alfred Morrison	do	Liverpool, N.S.	do	5 00
166	do	27.	Lewis Henry Wharton	Master	Branch Meadows, Queen's County, N.S.	do	5 00
167	do	27.	Charles Robert Foster	do	Pictou, N.S.	do	5 00
168	do	28.	Henry Clarence Starret	Master	Digby, N.S.	do	5 00
169	do	28.	Lawrence Gironi	do	Arichat, N.S.	do	5 00
170	do	28.	Lewis Sponagle	do	Liverpool, N.S.	do	5 00
171	do	28.	Amos Botsford Chandler Dotten	Master	Wallace, N.S.	Quebec	5 00
172	do	28.	Ebenezer Merriam, jun.	Master	Parrsboro, N.S.	Halifax	5 00

LIST OF CERTIFICATES of Service granted to Masters and Mates by the Department of Marine and Fisheries, of the Dominion of Canada, up to the 1st January, 1873.

No. of Certificate.	Date.	Name.	Grade. — Service.	Address.	When Examination was Passed.	Fee. \$ cts.
1872.						
173	Sept. 30	Robert Austin	Master	Hillboro', N. S.	Halifax	5 00
174	Oct. 1	Stewart Nickerson	Mate	Liverpool, N. S.	do	3 00
175	do 1.	Edward Forzel	do	Liverpool, N. S.	do	3 00
176	do 7.	Henry Horatio Fancy	Master	Port Medway, N. S.	do	5 00
177	do 9.	John McKenzie	Mate	Pictou, N. S.	do	3 00
178	do 9.	Charles Essex	Master	107 Gottenen Street, Halifax N. S.	do	5 00
179	do 9.	James Innes	do	Pictou, N. S.	do	5 00
180	do 9.	John Richardson	Mate	Portland, St. John, N. B.	St. John	5 00
181	do 9.	John McWhinnie	Master	Lower Granville, Annapolis County, N. S.	do	5 00
182	do 9.	Seth Ebenezer Johnston	do	Yarmouth, N. S.	do	5 00
183	do 9.	Robert James Espy	do	31 Smyth Street, St. John, N. B.	do	5 00
184	do 9.	James Dougherty	do	Hopewell, Albert County, N. B.	do	5 00
185	do 9.	Samuel Footo	do	Portland, St. John, N. B.	do	5 00
186	do 9.	John Dwyer	do	St. John, N. B.	do	5 00
187	do 9.	William Henry Fudge	do	2 Brunswick Street, Halifax, N. S.	Halifax	5 00
188	do 9.	Edmund Stewart Williams	do	Main Street, Liverpool, N. S.	do	5 00
189	do 10.	Robert Corbett	do	Five Islands, N. S.	do	5 00
190	do 14.	Thomas Acker	do	Lunenburg, N. S.	do	5 00
191	do 14.	Thomas Angel	Mate	Port Medway, Queen's County, N. S.	do	3 00
192	do 14.	Samuel Henry Mosher	do	143 Upper Water Street, Halifax, N. S.	do	3 00
193	do 14.	William McKenzie	Master	Pictou, N. S.	do	5 00
194	do 14.	Joshua McLeod	do	Brooklyn, Queen's County, N. S.	do	5 00
195	do 14.	Lennel Edward Churchill	do	Liverpool, N. S.	do	5 00
196	do 15.	Harrie Faulk Hennigar	Mate	Bridgeport, Bear River, N. S.	do	3 00
197	do 15.	Arthur Mitchell	Master	Sandy Cove, Digby County, N. S.	do	5 00
198	do 14.	Gilbert Foller Dodge	do	Hillsborough, Bear River, N. S.	do	5 00
199	do 16.	John McDormond	do	Annapolis, N. S.	St. John	5 00
200	do 16.	John Isaac Porter	do	Main Street, Liverpool, N. S.	Halifax	5 00
201	do 16.	John F. McGregor	do	Halifax, N. S.	do	5 00
202	do 16.	Daniel McKay	do	Pictou, N. S.	do	5 00
203	do 16.	James Jollymour	do	Pictou, N. S.	do	5 00
204	do 16.	John Edwin Warner	Mate	Annapolis, N. S.	do	3 00
205	do 16.	William Matteson	Master	141 Lower Water Street, Halifax, N. S.	do	5 00
206	do 17.	William Sheard Hopkins	do	Barrington, N. S.	do	5 00
207	do 17.	Alfred Belfountain	do	Arichat, N. S.	do	5 00

208	do	17.	William Logan.....	do	Pictou, N.S.	do	5 00
209	do	17.	Alfred Renaux.....	do	Arlchat, N.S.	do	5 00
210	do	17.	Nazier Leunieux.....	do	St. Thomas, County Montmagny, Quebec	Quebec	5 00
211	do	18.	John Bruce Pettis.....	do	Paraboro, N.S.	Halifax	5 00
212	do	18.	David Faulkner Morrison.....	do	Five Islands, N.S.	do	5 00
213	do	18.	Thomas Desmond.....	do	North Sydney Cape Breton.....	do	5 00
214	do	21.	Calvin Morrell.....	do	Yarmouth, N.S.	do	5 00
215	do	21.	Adam Douglas Poler.....	do	Stewiack, Colchester County, N.S.	do	5 00
216	do	21.	Charles H. Morrison.....	do	Liverpool, N.S.	do	5 00
217	do	21.	John Scoley.....	do	Liverpool, N.S.	do	5 00
218	do	21.	Isaac K. Whitney.....	do	Launenburg, N.S.	do	5 00
219	do	21.	William Rogers.....	do	Yarmouth, N.S.	do	5 00
220	do	22.	Constant Terrio.....	do	Arlchat, Cape Breton.....	do	5 00
221	do	22.	James McNamara.....	do	Port Medway, N.S.	do	3 00
222	Oct.	22.	Peter Ganion.....	do	Arlchat, N.S.	Halifax	5 00
223	do	22.	William Munro.....	do	Arlchat, N.S.	do	5 00
224	do	22.	Edward Ganion.....	do	Arlchat, N.S.	do	5 00
225	do	24.	William La Vash.....	do	Yarmouth, N.S.	do	3 00
226	do	24.	Nathan Trefry.....	do	Waters Street, Pictou, N.S.	do	3 00
227	do	24.	Thomas Meagher.....	do	Advocate Harbour, N.S.	do	3 00
228	do	24.	Charles Tupper Knowlton.....	do	Salmon Beach, Gloucester Co., N.B.	do	5 00
229	do	25.	Perez Martin.....	do	Campobello, N.B.	St. John.	5 00
230	do	25.	Nelson Ludlow.....	do	Moncton, Westmoreland Co., N.B.	do	3 00
231	do	25.	William Boyd.....	do	St. John, N.B.	do	3 00
232	do	25.	William Unkeruff.....	do	do	do	5 00
233	do	25.	John Quincy Pratt.....	do	Hopewell, Albert Co., N.B.	do	5 00
234	do	25.	Hiram Edgett.....	do	Port William, do	do	5 00
235	do	25.	Charles Brinton.....	do	Rockport, Westmoreland Co., N.B.	do	5 00
236	do	25.	Joseph Albert Read.....	do	Cariboo, Pictou Co., N.S.	Halifax	3 00
237	do	26.	Peter McKenzie.....	do	336 Upper Water Street, Halifax, N.S.	do	5 00
238	do	30.	William Hogan.....	do	159 Lower Water Street, Halifax, N.S.	do	5 00
239	do	30.	Peter John Ballal.....	do	Pictou, N.S.	do	5 00
240	do	30.	William Foster.....	do	do	do	5 00
241	do	30.	James Kitchen Gunn.....	do	Port Medway, N.S.	do	5 00
242	do	30.	Frederick Augustus Fader.....	do	Liverpool, N.S.	do	5 00
243	do	30.	Joseph Nickerson.....	do	Pictou, N.S.	do	5 00
244	Nov.	2.	Stewart Munro.....	do	Liverpool, N.S.	do	5 00
245	do	2.	Thomas Eaton.....	do	do	do	5 00
246	do	2.	Joseph Crouse.....	do	Main Street, Liverpool, N.S.	do	5 00
247	do	2.	John William McConney.....	do	Liverpool, N.S.	do	5 00
248	do	2.	William Cobb Dean.....	do	Arlchat, N.S.	do	5 00
249	do	5.	Charles Habin.....	do	Cape George, Antigonish Co., N.S.	do	5 00
250	do	5.	Angus McDonald.....	do	Antigonish, N.S.	do	5 00
251	do	6.	John McDonald.....	do	159 Lower Water Street, Halifax, N.S.	do	5 00
252	do	6.	Peter Kerr.....	do	do	do	5 00
253	do	6.	Charles Smith.....	do	Cape Canso, Guysboro Co., N.S.	do	5 00
254	do	6.	Daniel Munroe.....	do	119 Prince William Street, St. John, N.B.	St. John.	5 00
255	do	6.	Narcisse Stanislaus Porlier.....	do	Annapolis, N.S.	do	5 00
256	do	6.	Stephen Phinney.....	do	Clements West, Annapolis Co., N.S.	Halifax	5 00
257	do	6.	David Rice Lent.....	do	Clementsport, do	do	5 00
258	do	6.	Charles Jones.....	do			

LIST OF CERTIFICATES OF SERVICE GRANTED TO Masters and Mates by the Department of Marine and Fisheries of the Dominion of Canada up to the 1st January, 1878.

No. of Certificate.	Date.	Name.	Grade. — Service.	Address.	When Examination was Passed.	Fee.
259	Nov. 6	Angus Grant	Master	Port Hawkesbury, C.B.	Halifax	0 00
260	do 6	Alexander Currie	do	Pictou, N.S.	do	0 00
261	do 6	James McDonald	do	do	do	0 00
262	do 7	Alexander Scott	do	do	do	0 00
263	do 11	Oliver Tupper	Mate	Port Medway, N.S.	do	0 00
264	do 11	Foster Burke	Master	do	do	0 00
265	do 11	Samuel Doane Kelly	do	N. E. Harbour, Shelburne Co., N. S.	do	0 00
266	do 11	John Carlin	do	138 Lower Water Street, Halifax, N.S.	do	0 00
267	do 15	Henry Frelick	Mate	Liverpool, N.S.	do	0 00
268	do 22	John Long	do	do	do	0 00
269	do 25	Thomas Hale	Master	Water Street, Halifax, N.S.	do	0 00
270	do 25	William L. Munson	do	Protection Street, Carleton, St. John, N.B.	St. John	0 00
271	do 25	John Warnock	Mate	Hillboro, Albert Co., N. B.	do	0 00
272	do 25	Samuel Sydney Young	do	123 Prince William Street, St. John, N.B.	do	0 00
273	do 25	Randall Smith Austin	do	Bridge Street, Sackville, N.B.	do	0 00
274	do 25	Charles Marshall Anderson	Master	Sackville, N.B.	do	0 00
275	do 25	David Thomas Lewis	do	32 Mill Street, St. John, N.B.	do	0 00
276	do 25	Alfred Wood	do	Academy Street, Hillborough, N.B.	do	0 00
277	do 25	George Greening	do	141 Barrington Street, Halifax, N.S.	Halifax	0 00
278	do 25	Richard Herbert Gray	do	King Street, Dartmouth, N.S.	do	0 00
279	do 25	William Murphy	Mate	141 Upper Water Street, Halifax, N.S.	do	0 00
280	do 25	James Noble Layton	Master	Falmouth, N.S.	do	0 00
281	do 25	Joshua Wombach	do	Malbone Bay, N.S.	do	0 00
282	do 27	Charles Frederick Robichon	do	Township of Clare, Digby Co., N.S.	do	0 00
283	do 27	Peter Landry	do	Arichat, N.S.	do	0 00
284	do 27	James Dolliver Manthorn	do	Port Medway, N.S.	do	0 00
285	do 27	Thomas Woods	do	39 Water Street, Halifax, N.S.	do	0 00
286	do 27	William Hayward	do	Lehave Lunenburg Co., N.S.	do	0 00
287	do 27	Allan Munro	do	Cornwallis, Kings Co., N.S.	do	0 00
288	do 27	Cyril Fournier	do	I. Talet, Q.	Quebec	0 00
289	do 27	Freeman Coffill	do	Falmouth, Hants Co., N.S.	Halifax	0 00
290	do 29	Robert Meek Osburn	Mate	No. 9 George's St., St. John, N.B.	St. John	0 00
291	do 29	Thomas Rainey	do	St. John, N.B.	do	0 00
292	do 29	Enos Meland	Master	Brooklyn, Liverpool, N.S.	Halifax	0 00
293	do 29	Henry Peel Givan	do	St. John, N.B.	St. John	0 00

294	40	Wallace Kirkpatrick	do	French Cross, N.S.	Halifax	5 00
295	Dec.	James Millar Waters	do	Pictou, N.S.	do	5 00
296		Henry Curll	Master	Lunenburg, N.S.	do	3 00
297	do	William Babin	do	Arichat, C.B.	do	5 00
298	do	George Reid	do	Liverpool, N.S.	do	3 00
299	do	George William Fraser	do	Pictou, N.S.	do	3 00
300	do	Augustin Saulnier	Master	Clare, Digby Co., N.S.	do	5 00
301	do	John Boutain	do	West Arichat, Co. Richmond, N.S.	do	5 00
302	do	Daniel P. LeBlanc	do	do	do	3 00
303	do	Alexander Gunn	do	North Sydney, C.B.	do	3 00
304	do	Michael Wilson	Master	Barrington, N.S.	do	5 00
305	do	John Raymond Anderson	do	30 Maynard St., Halifax, N.S.	do	5 00
306	do	Victor Babin	do	Arichat, Richmond Co., N.S.	do	3 00
307	do	Albert Colp	do	Liverpool, N.S.	do	3 00
308	do	Alexander Fleet	Master	Pictou, N.S.	do	5 00
309	do	Ebenezer H. Foote	do	Yarmouth, N.S.	do	3 00
310	do	Stephen Strahan	do	do	do	5 00
311	do	Robert McHenry	Master	do	do	3 00
312	do	Thomas Helms	do	Mink Cove, Digby Co., N.S.	do	5 00
313	do	William Mitchell	do	Port Medway, N.S.	do	3 00
314	do	Alexander Manthorn	do	Pictou, N.S.	do	3 00
315	do	William Currie	do	Arichat, N.S.	do	5 00
316	do	George Porior	Master	Shree Harbor, N.S.	St. John	3 00
317	do	Edward Rutledge	do	J. & T. Leonard, St. John, N.B.	do	5 00
318	do	Maurice D. Peters	Master	Yarmouth, N.S.	Halifax	5 00
319	do	Hilaire V. Porter	do	St. Thomas, Quebec	do	5 00
320	do	Gilbert Caron	do	139 Lower Water St., Halifax, N.S.	do	5 00
321	do	Thomas Suttis	do	J. & T. Leonard, St. John, N.B.	St. John	3 00
322	do	Charles H. Peters	do	Falmouth, Hants Co., N.S.	Halifax	3 00
323	do	John McDonald	do	Advocate Harbor, Parrishore, Co., N.S.	do	5 00
324	do	Wesley Smith Sutherland	Master	42 Upper Water St., Halifax, N.S.	do	5 00
325	do	Martin Gray	do	Grand Narrows, Co. Cape Breton, N.S.	do	5 00
326	do	Hector McNeil	do	53 Germaine St., St. John, N.B.	St. John	3 00
327	do	James Alfred Burns	Master	Mill Village, Parrishore, N.S.	Halifax	3 00
328	do	Thomas William McKinlay	do	Dublin Shore, Co. Lunenburg, N.S.	St. John	5 00
329	do	Martin Edward Barry	Master	Lunenburg, N.S.	St. John	3 00
330	do	James Romkey	do	New Glasgow, N.S.	Halifax	5 00
331	do	Alfred Heider	do	Arichat, N.S.	do	3 00
332	do	Daniel Forest Graham	Master	do	do	5 00
333	do	Paul LeBlanc	do	Lunenburg, N.S.	do	5 00
334	do	Albert LeBlanc	do	Arichat, Richmond Co., N.S.	do	5 00
335	do	William F. Acker	do	Port Medway, N.S.	do	5 00
336	do	Robert Barrett	do	Arichat, Richmond Co., N.S.	do	3 00
337	do	Stephen Smith Collins	do	Maitland, Hants Co., N.S.	do	5 00
338	do	Charles Viro	Master	Arichat, Richmond Co., N.S.	do	5 00
339	do	John McUmber	do	South Sydney, Cape Breton, N.S.	do	5 00
340	do	Abraham Viro	do	Harborsville, N.S.	do	5 00
341	do	Michael Florian	do	Pictou Island, N.S.	do	5 00
342	do	Robert Randolph Charlton	do	West Dublin, Lunenburg Co., N.S.	do	5 00
343	do	Daniel McIsaac	do	do	do	5 00
344	do	Leonard Romkey	do	do	do	5 00

WM. SMITH, Minister of Marine and Fisheries.

as to Her Majesty may seem fit, and to impose penalties not exceeding fifty pounds for the breach of such conditions and regulations;

[illegible][illegible]

(4.) To declare that the said Colonial Office has granted by the
Minister of Marine and Fisheries in the said possession of Canada shall
of the same force as if they had been granted under the said Act; that is to

COPY OF HER MAJESTY'S ORDER IN COUNCIL, GIVING EFFECT TO
CERTIFICATES OF COMPETENCY ISSUED IN CANADA.

AT THE COURT AT BALMORAL, THE 19TH DAY OF AUGUST, 1871.

PRESENT,

The QUEEN'S Most Excellent Majesty in Council.

WHEREAS, by "The Merchant Shipping (Colonial) Act, 1869," it is (among other things) enacted that where the Legislature of any British possession provides for the examination of, and grant of certificates of competency to, persons intending to act as masters, mates, or engineers on board British ships, and the Board of Trade reports to Her Majesty that they are satisfied that the examinations are so conducted as to be equally efficient as the examinations for the same purpose in the United Kingdom under the Acts, relating to Merchant Shipping, and that the certificates are granted on such principles as to show the like qualifications and competency as those granted under the said Acts: and are liable to be forfeited for the like reasons and in the like manner, it shall be lawful for Her Majesty, by Order in Council:—

1. To declare that the said certificates shall be of the same force as if they had been granted under the said Acts:.
2. To declare that all or any of the provisions of the said Acts which relate to certificates of competency granted under those Acts shall apply to the certificates referred to in the said Order:
3. To impose such conditions, and to make such regulations with respect to the said certificates, and to the use, issue, delivery, cancellation, and suspension thereof, as to Her Majesty may seem fit, and to impose penalties not exceeding fifty pounds for the breach of such conditions and regulations:

And that upon the publication in the London Gazette of any such Order in Council as last aforesaid, the provisions therein contained shall from a date to be mentioned for the purpose in such Order, take effect as if they had been contained in the Act; and that it shall be lawful for Her Majesty in Council to revoke any Order made under this section:

And whereas the Legislature of the British possession of Canada has provided for the examination of and grant by the Minister of Marine and Fisheries in the said possession of certificates of competency for sea-going ships to persons intending to act as masters or mates on board British sea-going ships, which certificates are hereinafter denominated Colonial Certificates of Competency, and the Board of Trade have reported to Her Majesty that they are satisfied that the said examinations are so conducted as to be equally efficient as the examinations for the same purpose in the United Kingdom, under the Acts relating to Merchant Shipping, and that the certificates are granted on such principles as to show the like qualifications and competency as those granted under the said Acts, and are liable to be forfeited for the like reasons and in the like manner:

Now therefore, Her Majesty, in exercise of the power vested in Her by the said recited Act, by and with the advice of Her Privy Council, is pleased,

- (1.) To declare that the said Colonial Certificates of Competency granted by the Minister of Marine and Fisheries in the said possession of Canada shall be of the same force as if they had been granted under the said Acts, that is to

say, the said Colonial Certificates of Competency as Masters of such sea-going ships shall be of the same force as if they were Certificates of Competency as Masters of foreign-going ships, granted under the said Acts, and the said Colonial Certificates of Competency as Mates of such sea-going ships shall be of the same force as if they were Certificates of Competency as First Mates of foreign-going ships granted under the said Acts.

- (2.) To declare that all the provisions of the said Acts which relate to Certificates of Competency for the foreign trade granted under those Acts, except the 139th section of "The Merchant Shipping Act, 1854," and so much of the 3rd paragraph of the 23rd section of "The Merchant Shipping Act Amendment Act, 1862," as requires at the conclusion of a case relating to the cancelling or suspending of a Certificate, such Certificate, if cancelled, or suspended, to be forwarded to the Board of Trade. And the whole of the fourth paragraph of the same section shall apply to such Colonial Certificates of Competency.
- (3.) To impose and make the conditions and regulations following, numbered 1 to 10 respectively, with respect to the said Colonial Certificates of Competency, and to the use, issue, delivery, cancellation, and suspension thereof, and to impose for the breach of such conditions and regulations the penalties therein mentioned.

Form of Certificate.

1. Every such Colonial Certificate of Competency shall be on parchment, and as nearly as possible similar in shape and form to the corresponding Certificate of Competency for the foreign trade, granted by the Board of Trade under the Acts relating to Merchant Shipping.

Name of Possession to be inserted.

2. Every such Colonial Certificate of Competency shall have the name of the said possession of Canada inserted prominently on its face and back.

Certificates to be numbered consecutively.

3. Such Colonial Certificates of Competency shall be numbered in consecutive order.

Lists of Certificates granted, cancelled, &c., to be sent to Registrar-General of Seamen.

4. The Government of the said possession shall furnish the Registrar-General of Seamen in London from time to time with accurate lists of all such Colonial Certificates of Competency as may be granted as aforesaid by the said Minister of Marine and Fisheries, or as may for any cause whatsoever, be cancelled, suspended, renewed, or re-issued.

Three years' Domicile or Service necessary.

5. Such Colonial Certificates of Competency shall be granted only to persons who have been domiciled in the said possession, or who have served in ships registered therein for a period of, or for periods amounting to, at least three years immediately preceding their application for such Colonial Certificates.

Certificates of Competency granted contrary to this regulation shall be regarded as improperly granted.

Certificates not to be granted when former are Cancelled.

6. Such Colonial Certificates of Competency shall not be granted to any person who may have had a Certificate, whether granted by the Board of Trade or by the Government of a British Possession, cancelled or suspended under the provisions of the said Acts, or

of any Act for the time being in force in any part of Her Majesty's Dominions unless the period of suspension has expired; or unless intimation has been received from the Board of Trade, or the Government by whom the cancelled or suspended Certificate was originally granted, to the effect that no objection to the grant of such Colonial Certificate is known to exist, or unless a new Certificate has been granted to him by such Board or Government, and in the last named event no such Colonial Certificate of Competency shall be for a higher grade than the Certificate so last granted as aforesaid. (Colonial Certificates of Competency granted contrary to this regulation shall be regarded as improperly granted.)

Certificates improperly granted may be cancelled without formal investigation.

7. Any such Colonial Certificate of Competency which appears from information subsequently acquired or otherwise, to have been improperly granted, whether in the above or in any other respect, may be cancelled by the Government of the said Possession or by the Board of Trade in the United Kingdom, without any formal investigation under "The Merchant Shipping Act, 1854," and the holder of such Certificate shall thereupon deliver it to the Board of Trade or the Government of the said Possession, or as they or either of them may direct, and in default thereof shall incur a penalty not exceeding fifty pounds which shall be recoverable in the same manner as penalties imposed by the Acts relating to Merchant Shipping are thereby made recoverable.

Cancellation, &c. of a Certificate shall involve Cancellation of all the other Certificates possessed by its owner.

8. Every decision with respect to the cancellation or suspension of a Certificate pronounced by any Board, Court, or Tribunal, under the provisions of the said Acts shall extend equally to all the Colonial Certificates at the time possessed by the person in respect of whom the decision is made, as well as to all Certificates granted to him under any of the Acts relating to Merchant Shipping, and whether such Certificates be specified in such decision or not.

Certificates believed to be fraudulent may be demanded.

9. Any Officer of the Board of Trade or the Registrar General of Seamen, or any of his officers, or a Superintendent of a Mercantile Marine Office, or a Consular Officer, or duly appointed Shipping Officer in a British Possession, may demand the delivery to him of any such Colonial Certificate of Competency which he has reason to believe has been improperly issued, or is forged, altered, cancelled, or suspended, or to which the person using it is not justly entitled, and may detain such Certificate for a reasonable period for the purpose of making enquiries respecting such issue, forgery, alteration, cancellation, suspension, or possession, and any person who without reasonable cause neglects or refuses to comply with such demand, shall incur a penalty not exceeding twenty pounds, which shall be recoverable in the same manner as penalties imposed by the Acts relating to Merchant Shipping are thereby made recoverable.

Suspended Certificates to be re-issued only by Colony by which originally granted.

10. Any such Colonial Certificate of Competency which has from any cause been cancelled or suspended, whether by a Tribunal of Canada, or elsewhere, shall be renewed or re-issued only by the Government of Canada.

This Order shall take effect in the said Possession of Canada from and after the date hereof.

(Signed) EDMUND HARRISON.

NOTICE TO CANDIDATES FOR EXAMINATION AS MASTERS OF SHIPS AND MATES, AND RULES AND REGULATIONS RELATING THERETO.

The examinations will be held in the ports of Montreal, Quebec, St. John Place of examination
and Halifax, and such times as may be decided upon by the Minister of
Marine and Fisheries of which due notice will be given.

Testimonials of character and of sobriety, experience, ability and good
conduct on board ship, will be required of all applicants, and without produc- Testimonials
ing them no person will be examined. As such testimonials will have to be of character,
closely examined by the examiners for verification before any certificates can conduct, and
be granted, it is desirable that candidates should lodge them as early as pos- ability, re-
sible. The testimonials of sergeants of foreigners and British seamen serving quired.
in foreign vessels must be confirmed either by the Consul of the country to
which the ship in which the candidate served belonged, or by some other
official authority of that country, or by the testimony of some credible person
on the spot, having personal knowledge of the facts required to be established.
Upon application to the Board of Examiners, candidates will be supplied with
a form which they will be required to fill up and lodge with their testimonials
in the hands of the Examiners.

When the Board of Examiners are in every respect satisfied with the
testimonials of a candidate, service in the coasting trade may be allowed to
count towards service, in order to qualify him for a Certificate of Competency for a
coasting ship, as a mate, and two years' service as mate in the coasting
trade may be allowed to count as service for a Master's Certificate, provided
the candidate's name has been entered as Mate in the Coasting Articles, or
other proof satisfactory to the Examiners, and provided he has already passed
an examination.

RULES.

The qualifications required for the ranks undermentioned are as follow:

1. A *Mate or Only Mate* must be nineteen years of age, and have been
three years at sea (Service in a superior capacity is in all cases to be
equivalent to service in an inferior one.)
2. *Navigation.*—He must write a legible hand and understand the
first rules of arithmetic and the use of logarithms. He must be able to work
a day's work complete, including the bearings and distance of the port he is
bound to, by Mercator's method; to correct the sun's declination for longitude,
and his latitude by the meridian altitude of the sun, and by single altitude of
the same body off the meridian. He must be able to observe and compute
the variation of the compass from azimuths and amplitudes; be able to com-
pare chronometers and keep their rates; and be able to find the longitude by
them from an observation of the sun by the usual methods. He must be able
to lay off the place of the ship on the chart, both by the bearings of known
objects, and by latitude and longitude. He must be able to determine the
error of a sextant, and to adjust it; also to find the time of high water from
the known time at full and change.

3. *In Seamanship.*—He must give satisfactory answers as to the rigging
and stowage of ships and stowing of holds; must understand the measure-
ment of the log-line, glass, and lead-line; be conversant with the rule of the
road, and regards both steamers and sailing vessels, and lights and fog-signals
carried by them, and will also be examined as to his acquaintance with the
Commercial Code of Signals for the use of all nations. In addition to which
he will be required to know how to moor and unmoor and keep a clew anchor;

How time in
coasting trade
will count.

Qualifications
for certificates
of competency
as mate.

to carry out an anchor, and to make the requisite entries in the ship's log. He will also be questioned as to his knowledge of the use and management of the mortar and rocket lines in the case of the stranding of a vessel, as explained in the official log-book. He will also be required to know how to shift large spars and sails; to manage a ship in stormy weather, to take in and make sail, to shift yards and masts, &c., and to get heavy weights, anchors, &c., in and out; to cast a ship on a lee shore; and to secure the masts in the event of accident to the bowsprit.

Master.

4. A *Master* must be twenty-one years of age, and have been six years at sea, of which at least two years must have been as *Mate* or *Only Mate*.

5. In addition to the qualification for a *Mate* or *Only Mate*, he must be able to find the latitude by a star, &c. He will be asked questions as to the nature of the attraction of the ship's iron upon the compass, and as to the method of determining it. He will be examined in so much of the laws of the tides as is necessary to enable him to shape a course, and to compare his soundings with the depths marked on the charts. He will be examined as to his competency to construct jury rudders and rafts; and as to his resources for the preservation of the ship's crew in the event of wreck. He must possess a sufficient knowledge of what he is required to do by law as to entry and discharge, and the management of his crew, and as to penalties and entries to be made in the official log, and a knowledge of the measures for preventing and checking the outbreak of scurvy on board ship. He will be questioned as to his knowledge of invoices, charter party, Lloyd's agent, and as to the nature of bottomry, and he must be acquainted with the leading lights of the channel he has been accustomed to navigate, or which he is going to use.

Service in fore and aft rigged vessels.

6. In cases where an applicant for a certificate as *Master* has only served on a fore-and-aft rigged vessel, and is ignorant of the management of a square-rigged vessel, he may obtain a certificate on which the words "Fore-and-aft rigged vessel" will be written. This certificate does not entitle him to command a square-rigged ship. This is not, however, to apply to *Mates*, who, being younger men, are expected for the future to learn their business completely.

Punctuality of candidates attendance.

7. Candidates are required to appear at the examination room punctually at the time appointed.

Candidates injuring examination papers.

8. Candidates are prohibited from bringing into the examination room books or paper of any kind whatever. The slightest infringement of this regulation will subject the offender to all the penalties of a failure.

9. In the event of any candidate being detected in defacing, blotting, writing in, or otherwise injuring any book or books belonging to the Board, the papers of such candidates will be detained until the book or books so defaced be replaced by him. He will not, however, be at liberty to remove the damaged book, which will still remain the property of the Board.

Candidates discovered copying, &c.

10. In the event of any candidate being discovered copying from another, or affording any assistance or giving any information to another, or communicating in any way with another during the time of examination, he will subject himself to a failure and its consequences.

11. No candidate will be allowed to work out his problems on a slate or on waste paper.

12. No candidate will be permitted to leave the room until he has given up the paper on which he is engaged.

Time allowed to work out navigation papers.

13. Candidates will be allowed to work out the various problems by the method and tables they have been accustomed to use, and will be allowed six hours to perform the work. At the expiration of six hours they will, if they have not finished, be declared to have failed, unless the Board of Examiners see fit to lengthen the period in any special case. If, however, the period is

lengthened in any case, the special circumstances of that case and the reasons for lengthening the period must be reported to the Minister of Marine and Fisheries by the Examiners at the time they send in the report.

14. The corrections by inspection, from tables given in many works on navigation, will not be allowed (see Tables IX, XI, and XXI, in Norie's Epitome, &c.); every correction must appear on the papers of the candidates. The first-class are referred to page 519 of the Nautical Almanac, 1867, for further information on this subject. Corrections by inspection not allowed.

15. Candidates are expected to bring their answers to all problems within, or not to exceed, a margin of one mile of position from a correct result.

16. In finding the longitude by chronometer, the logarithms used in finding the hour-angle should be taken out for seconds of arc.

In all other problems, the logarithms to the nearest minute will be sufficiently correct for all grades, except Master, from whom a degree of precision will be required, both in the work and in the results, beyond what is demanded from the inferior grade.

17. In every case the examination for Master is to commence with the problems for Mate. Examination to commence with that of mates.

18. In all cases of failure the candidate must be re-examined *de novo*. If a candidate fails in *Seamanship* he will not be re-examined until after a lapse of six months, to give him time to gain experience. If he fails three times in *Navigation* he will not be re-examined until after a lapse of three months. Re-examination in case of failure.

19. The Examiners are to insert in the Report of Examinations (under heading Remarks) the words, "passed," (or "failed,") in Commercial Code of Signals, as the case may be. Examination as to knowledge of commercial code of signals.

NOTES.

Candidates will find it more convenient, both here and at sea, to correct the declination and other elements from the Nautical Almanac by the "hourly differences," which have been given in that work in order to facilitate such calculations, they will thereby render themselves independent of any proportional or logarithmic table for such purposes. Correcting declination, &c.

As the examinations of Masters and Mates are made compulsory, the qualifications have been kept as low as possible, but it is distinctly to be understood that the Minister of Marine and Fisheries may raise the standard from time to time, whenever, as will no doubt be the case, the general attainments of officers in the merchant service shall render it possible to do so without inconvenience; and officers are strongly urged to employ their leisure hours, when in port, in the acquirement of the knowledge necessary to enable them to pass their examinations; and masters will do well to permit apprentices and junior officers to attend schools of instruction, and to afford them as much time for this purpose as possible. Standard of examination will be raised.

NOTICE.

EXAMINATION OF MASTERS AND MATES.

By Virtue of an Order in Council, bearing date the 26th June, 1871, the following amendments have been made to the Rules and Regulations for examination of Candidates for Certificates of Competency as Masters and Mates in Mercantile Marine, as approved by Order in Council of 27th February, 1871:

1st. Rule 1st has been so amended as to require five years service at sea instead of four years, for a Mate or only Mate, of which one year must have

been as either second or only Mate, or as both ; service in a superior capacity being in all cases equivalent to service in an inferior capacity.

2nd. Candidates for Certificates of Masters and Mates must be examined in the use of the International Code of Signals, and failure in this branch will be treated as failure in Navigation.

By Order.

WM. SMITH,
Deputy of the Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 20th July, 1871.

NOTICE TO CANDIDATES FOR EXAMINATION AS MASTERS.

By virtue of an Order in Council, dated the 20th December, 1872, Rule 4th, of the Rules and Regulations relating to the Examination of Masters and Mates, has been amended, and will read as follows, viz :—

"A Master must be twenty-one years of age, and have served six years at sea, of which at least one year shall consist of service as First or Only Mate, and one year as Second Mate."

By Order.

WM. SMITH,
Deputy of the Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 27th December, 1872.

CANADA.

By the Honorable the Minister of Marine and Fisheries for the Dominion of Canada.

CERTIFICATE OF COMPETENCY AS MASTER.

L.S.

To _____

WHEREAS it has been reported to me that you have been found duly qualified to fulfil the duties of Master of a sea-going ship in the Merchant Service, I do hereby, in pursuance of the Canadian Act respecting Certificates to Masters and Mates of Ships, 33 Vict., Cap. 17, grant you this Certificate of Competency.

Given under the Seal of the Minister of Marine and Fisheries of Canada at Ottawa,
this _____ day of _____ 187

[Registered].

Minister of Marine and Fisheries.

Deputy of Minister of Marine and Fisheries.

(Mate's Certificate similar to above.)

CANADA.

No. of Certificate _____

Address of Bearer _____

Date and Place of Birth _____

Signature _____

This Certificate is given upon an Examination passed at _____

on the _____ day of _____ 187 _____

Every person who makes, or procures to be made, or assists in making any false Representation for the purpose of obtaining for himself, or for any other person a Certificate either of Competency or Service, or who forges, assists in forging or procures to be forged, or fraudulently alters, assists in fraudulently altering or procures to be fraudulently altered, any such Certificate or any Official Copy of any such Certificate, or who fraudulently makes use of any such Certificate or any Copy of any such Certificate which is forged, altered, cancelled, suspended, or to which he is not justly entitled, or who fraudulently lends his Certificate to or allows the same to be used by any other person, shall for each offence be deemed guilty of a Misdemeanor, and any Master or Mate who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Two Hundred Dollars.

Issued at the PORT of _____

CANADA.

By the Honorable the Minister of Marine and Fisheries for the Dominion of Canada.

CERTIFICATE OF SERVICE AS MASTER.

L.S.

To _____

WHEREAS it has been reported to me that you have produced satisfactory evidence of your sobriety, experience, ability and general good conduct on board ship, and that you have fulfilled the duties of Master of a sea-going ship in the Merchant Service prior to the First Day of January, 1870,

I do hereby, in pursuance of the Canadian Act respecting Certificates to Masters and Mates of Ships, 33 Vic. Cap. 17., grant you this Certificate of Service.

Given under the Seal of the Minister of Marine and Fisheries of Canada at Ottawa, this _____ day of _____ 187 _____

[Registered].

*Minister of Marine and Fisheries.**Deputy of Minister of Marine and Fisheries.*

(Mate's Certificate similar to above.)

CANADA.

No. of Certificate _____

Address of Bearer _____

Date and Place of Birth _____

Signature _____

This Certificate is given upon an Examination passed at _____

on the _____ day of _____ 187 _____

Every person who makes, or procures to be made, or assists in making any false Representation for the purpose of obtaining for himself or for any other person a Certificate either of Competency or Service, or who forges, assists in forging or procures to be forged, or fraudulently alters, assists in fraudulently altering, or procures to be fraudulently altered, any such Certificate or any Official Copy of any such Certificate, or who fraudulently makes use of any such Certificate or any Copy of any such Certificate which is forged, altered, cancelled, suspended, or to which he is not justly entitled, or who fraudulently lends his Certificate to or allows the same to be used by any other person, shall for each offence be deemed guilty of a Misdemeanor, and any Master or Mate who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Two Hundred Dollars.

Issued at the PORT of _____

APPENDIX No. 24.

REPORT OF THE HARBOR COMMISSIONERS OF QUEBEC.

QUEBEC, 25th November, 1872.

SIR,—I have the honor to acknowledge receipt of your favor of the 21st inst., and to report that nothing but the ordinary repairs have been done during the last year in the harbor of Quebec.

The Commissioners, however, contemplate the completing of the Basin in the delta of the Rivers St. Charles and St. Lawrence for the next year. Enclosed is a statement of receipts and expenditure for the year 1872.

I am, &c.,

J. B. MARTEL,

Secretary Treasurer.

Wm. Smith, Esq.,

Deputy of Minister of Marine,

Ottawa.

APPENDIX 25.

REPORT OF HARBOUR COMMISSIONERS OF MONTREAL, FOR CALENDAR YEAR ENDED 31st DECEMBER, 1872.

HARBOUR COMMISSIONERS' OFFICE,
MONTREAL, 25TH February, 1873.

SIR,—I have the honor, by direction of the Harbour Commissioners of Montreal, to transmit herewith, for the information of the Honorable the Minister of Marine and Fisheries, statements shewing the receipts and disbursements of the Commissioners for the year ended 31st December, 1872.

The revenue for the year amounted to.....	\$225,717 50
Derived from the following sources, viz:—	
On goods subject to ad valorem wharfage.....	22,822 13
" " specific " 	70,286 63
From Grand Trunk Railway on through goods.	3,500 00
" Sailing vessels, steamers, and their cargoes, outwards	78,115 03
Over, received in fractions.....	19 50
Local traffic on ferry boats, steamers, barges, &c., &c:—	
On goods outwards.....	26,83 89
" inwards.....	9,877 00
Dues on barges, wood boats, &c.,.....	11,060 03
" steamers.....	2,565 36
Commutation on steamers.....	15,189 42
For piling wood on wharves.....	3,014 00
" lumber " 	6,872 00
	226,084 99
Wharfage returned.....	367 49
Net revenue.....	\$225,717 50
Being an increase over the previous year of.....	\$32,025 91
The expenditure for the year was as follows:—	
Interest on debentures.....	67,557 87
Harbour repairs.....	18,668 26
Salaries, office expenses, &c.,.....	12,774 63
Dredging in the harbour and basins	54,140 85
Commissioner's Wharf.....	1,231 12
New plant—Dredge No. 4.....	18,653 23
Derrick " 2.....	6,599 09
3 Scows.....	3,555 00
Tug "W. F. Parsons"	8,150 00
	36,957 32
Chain tug (building) amount expended..	20,633 86
Wind Mill Point Wharf.....	2,014 42
George Bowie and Bros., on account contracts, Market Basin, and Jacques Cartier Pier.....	15,730 00
Commissioner's Wharf.....	2,300 00

Advance on timber.....	4,740 00	
		22,770 32
Longueuil Ferry Wharf extension		20,793 41
Market Basin, and Jacques Cartier Pier.....		7,355 60
Total expenditure.....		\$264,897 34

You will notice by the Annual Report of the Harbour Engineer, a copy of which is enclosed, that large works were entered into by the Commissioners, during the past year, and that very extensive improvements are contemplated for the next three years, some of which have already been put under contract. The Commissioners have also increased their plant considerably, as you will see by the report.

I am further desired to send you a copy of the Harbour Master's Report, with comparative statement of the trade of the port, during the last five years.

I have, &c.,

H. H. WHITNEY,

Secretary.

WM. SMITH, Esq.

Deputy of the Minister of Marine and Fisheries,
Ottawa.

HARBOR COMMISSIONERS' OFFICE

MONTREAL, 18th February, 1873.

H. H. Whitney, Esq.,

Secretary, Harbour Commissioners, Montreal.

SIR,—I beg to lay before you, for the information of the Harbour Commissioners, a statement of the works carried on under my superintendence for the past year, under the respective headings of "Repairs of Harbour," "New Works near Windmill Point," "Harbour Dredging," "Jacques Cartier Pier," "Commissioner's Wharf," "Chain Tug," etc.—

REPAIRS OF HARBOUR.

On the opening of the navigation last spring, the wharves were left free of ice, it having disappeared without any of the usual shove; the only damage sustained was the giving way of a portion of the western side of the Island wharf, and also a portion of the upper face of the Richelieu Pier. These works are constructed on piles, and the damage was caused in the first place by the constant dredging going on in the vicinity. I had these replaced as soon as the water was low enough.

A large item in the charges of the repairs this season, is for no less a sum than \$6,000 for broken stone. When the rails of the Grand Trunk Railway were extended downwards, it unfortunately happened that the whole of the Merchants Wharf had to be macadamized for about a depth of one foot, so as to prevent the water remaining there; of course when this place was occupied with the firewood, and covered with bark, these people were out of the damp, but when these latter were removed and the place occupied by the "Dominion line of Steamers," it had to be properly graded.

The approach to the "Victoria Pier" was also covered with a thick coating of metal a distance of 250 feet by 70 in width, while the outer end of the said Victoria Pier, which had also been converted into berths for the "Sidey Line" had also to be put into proper order, by putting a coat of metal here. This will explain the increase of the expenses of this department this season.

The cost of the repairs to the Island Wharf and Richelieu Pier as aforesaid has been about \$3,000, forming together a distance of 200 feet.

In my report of last year, I brought under the notice of the Commissioners the great expense of Harbour Repairs, the greater portion of which is cleaning up of the wharves.

In former years, when vessels deposited any sweepings or rubbish, they were obliged to remove the same, but at present, on account of the rapidity in which vessels discharge and move, it would be impossible to carry out that system, consequently the trust has to bear the whole of this additional expense.

Our deposit ground is now in the vicinity of Molson's; consequently, a cart had to travel the whole way from Allan's, near McGill Street, down there.

A scow, such as I proposed last year, would be a great saving moored in some central portion of the Harbour; but on account of the great expense of building and material, the idea was postponed.

The total cost of Harbour repairs has this season been \$16,357.13.

NEW WORKS NEAR WINDMILL POINT.

The only expense this season here has been the macadamizing of the road from the Canal Office, along the Canal bank. This was rendered necessary for the accommodation of the Intercolonial Coal Company. We also constructed four small piers to form a temporary wharf for the use of the Messrs Dyer, Lumber Merchants; the cost of the above was \$660.

HARBOR DREDGING.—DREDGE NUMBER ONE.

The repairs to this dredge and the fleet generally were commenced on the 1st March; the repairs to the buckets, links, pins, etc. were done by ourselves; we had also the deepening frame repaired which had been eaten away by stones. This vessel was ready as soon as the water was let into the Canal, but it was then found that she was leaking badly, I caused her to be docked at Cantin's. We were however delayed several days in getting in there on account of vessels coming out, etc. She however went in on the 8th and came out on the 14th May, and was immediately taken down to the lower end of the Harbour, to remove the shoal opposite the upper end of the Commissioners' Wharf. She worked here, and in the vicinity of the Military Basin, nearly the whole of the season, with the exception of from the 17th to 29th July, when she worked in the Queen's Basin.

This vessel has done a respectable and above the average amount of work. She is always selected to work in the most difficult and dangerous parts of the harbour. She was delayed a good deal for the want of a tug, and the absence of the stone-kipper also was a great inconvenience; she was delayed still more by the great number of vessels frequenting the Military Basin, getting across and foul of her chains, and of course rendering the vessel incapable of working. She has met with no accident this year, but her scows, now lying in the canal will require considerable repairs.

This dredge removed during the season 26,500 cubic yards of material, and 250 tons of boulders, the latter being all gripped by hand. The cost of this vessel, including tender etc., has been \$11,543.82 which has been about the same as last year, although wages and coal have increased about 30 per cent. Last year she removed 18,000 cubic yards; the cost per yard last year was 60 cents, this year only 43 cents.

DREDGE NUMBER TWO.

Commenced on the 8th May below the Commissioners' Wharf, where she worked up to the 15th June, 31 days. When the water had got so high that we were unable to work there any longer, we moved her up to the Market Basin, where she worked up to the 26th June. She then moved up to Windmill Point, where she worked till the 30th June, five days; she then returned to the Market Basin, where she worked nine days. July 10th moved thence to the Merchants Wharf, to remove a small deposit which obstructed the steamships. She worked here two days, up to the 13th day of July, and from thence down to the Commissioners Wharf, to dredge out the bottom of the cribs, where she was employed up to the close of the season.

This vessel removed during the season, 44,272 yards, at a cost of \$15,238, or 35 cents per yard, divided as follows:—Market Basin, 38 days, \$3,271.04; Windmill Point, 5 days,

\$430.40; Merchants' Wharf, 3 days, \$258.24; Commissioners' Wharf, 131 days, \$11,278.32.

This vessel has worked very satisfactorily during this season, having not lost a single day from accident; the only time lost was four days, (having rain.) The increase of cost of the work of this vessel is the cost of the tender which has been exceptional this year, from the great distance the material had to be towed down to the Longueuil Ferry Wharf, where we had the current St. Mary to overcome, made the cost of the tender and of course the dredging more expensive.

DREDGE NUMBER THREE.

This vessel was wintered at Boucherville last winter. We commenced our repairs about the middle of March, and had them completed on the opening of navigation. She was immediately towed down to Contrecoeur, to continue the excavation commenced there on behalf of the Dominion Government; she did not commence here until the 8th May, having lost one week from the absence of coal, as the whole city was denuded of fuel last winter. She commenced work on the 11th May and worked steadily until the 11th July, when she was removed to Cap Charles. We were obliged to suspend works at Contrecoeur, on account of the lowness of the water; we had great difficulty in working from this cause, as the dredge draws 6 ft, 6 in. and we were obliged to work in about 3 feet. We succeeded in working in this shallow water by loading the stern of the vessel with ballast and thus raising her nose. Considerable time was lost also by the breaking of the wheel of the tender, caused by striking the edges of the bank no less than three times, requiring of course a stoppage of the works, while the tender came up to Montreal to be repaired. We worked here from the 11th May until the 11th of July, a period of 53 days, from which we lost about 12 days from the causes above explained. She removed in the 40 days she worked here 33,150 cubic yards, or an average of 830 cubic yards per day.

On the 11th July, we lifted our anchors to proceed to Cap Charles, to improve the channel of navigation there, where we arrived on the 20th July; and on the 22nd we commenced work, where she remained till the close of the season, the 28th November.

We have dredged here for a space of 1,500 feet in length, and made the channel 200 feet in width, with 22 feet in depth at neap and 26 at spring tides; there remains yet a distance of about 300 ft. in length by 100 feet in width. I would not however propose resuming this work, as I consider the width as sufficient for the present, particularly in view of the probable early commencement of the whole work on an extensive scale.

The difficulties of the work here have been of an exceptional nature, no such dredging having been undertaken or executed since the Trust has been connected with the Lake and River works. The bottom or bed of the river at this place is of shale rock, of which I exhibit a specimen, while the surface of said rock is covered thickly with huge boulders of all sizes. The principal part of the work was of course the removal of these, and when we recollect that the current at ebb tide is as swift as the current St. Mary, some idea of the difficulties of the work here may be imagined.

We removed, in addition to the boulders, about two feet in depth of the solid rock which lay in beds on the work.

The only time lost by this vessel, while here, was from the 26th September to the 4th October, caused by the breaking of the spar wheel, which detained the vessel six days.

The total amount of work done at Cap Charles by this vessel, was the removal of 2,000 tons boulders and 500 tons of rock, occupying 127 days, at a cost of \$12,700, while at Contrecoeur she removed 33,150 in 53 days, at a cost of \$5,976.37.

On account of the sudden setting in of the cold this fall, this vessel was unable to get into winter quarters until after considerable difficulty. I had made arrangements with the agent of the "St. Lawrence Tow Boat Company," to tow her up to Sorel, but the steamer *Royal* was detained two days at the Platon, 6 miles below the dredge, by a violent snow storm. On the 29th she started with the dredge, but was unable to proceed

further than Batiscan, on account of the amount of ice in the river. After remaining here a couple of days she finally deserted the dredge and got herself safe into Three Rivers. During this time a large field of ice came down and carried away the two scows, which were moored to the dredge. These scows reached Quebec in safety, where they now lie.

After considerable trouble, we succeeded in inducing the *Loyal* to return for the dredge, the weather in the meantime having moderated considerably, and she succeeded in bringing the dredge up to Three Rivers that same afternoon, where she now lies.

DREDGE NUMBER FOUR.

A contract for this dredge was awarded on _____ to W. P. Bartley & Co., for the machinery, and the hull to A. Cantin. The hull was launched on the 14th May, but the contract for the machinery was delayed by the Messrs. Bartley. The time for the completion of the contract was the 15th March, but we only received the last piece of the machinery on the 17th July, nearly four months later than the time specified for; the consequence of which was, that being deprived of the services of this vessel, the delay of other works dependent on its services.

On the 20th July, this vessel got fairly to work, in the Market Basin, working at the excavation for the bottom of the cribbing, where she worked up to the 21st November, when she was moved up to the Elgin Basin, where she worked up to the 30th, clearing up the deposit from the sewer.

This vessel removed, during the time she was at work in the Market Basin, 20,894 cubic yards, and 4,150 in the Elgin, or a total of 25,044 yards.

The total cost has been \$9,258.70; \$1,534 for Elgin, and \$7,724.70 for the Market Basin, at about 37 cents per yard.

This dredge has worked well, and has realized my expectations as being that of a first class dredge, second to none of its class; every thing about her has been of the best material, and one important improvement has been that of connecting the machinery, so as to raise the anchors by steam instead of by hand as formerly. The cost of this has been about \$1,500, but the thing has been such a success, that I have no hesitation in saying that it will pay itself in one season.

Connected with this dredge was also built a steam derrick, somewhat similar to the present one owned by the Trust, and which worked in connection with No. 4 up to the close of the season.

The cost of the construction of Dredge No. 4 has been, for machinery, \$6,757.77, hull, \$7,650.94, the balance being for machinery for anchor hoisting, chains, shovel, arms, etc. The cost of the derrick has been \$5,762.53; the hull was built by Mr. M. X. Lefevre for \$1,650, the machinery by Bartley for \$1,975, the balance by the Trust for chains, boxes, etc. There was also built three scows for this dredge also by Mr. Lefevre, at a cost of \$3,555.00.

During last spring, extensive repairs were made to the upper works of the tug *John Brown*. She was provided with new deck beams, deck combings, covering board, rails, tow posts, houses on deck, etc., and having been provided with a new boiler two years ago, this boat is now in first class order.

The *Delisle* is employed as a tender for Dredge No. 3, and is a new boat, and requires no repairs further than the ordinary painting in the spring. The *Minnie F. Parsons*, purchased last fall on the Welland Canal, is a first-class boat, and answers the purpose admirably. All these tugs are of the same size and character, having cylinders of 18 inches diameter. The only repairs the *Parsons* requires is some small repairs to her heater and the usual painting.

CHAIN TUG.

A contract was awarded for the construction of this vessel two years ago. The hull was awarded to Mr. Cantin, and he had his portion of the work completed about the time, but Mr. E. E. Gilbert, to whom the contract was awarded for the machinery, is about one

year behind his time. His contract expired on the 1st May last, and as he had barely commenced the work then, on the 29th April, I caused him to be formally protested; the work now, however, is well advanced, and I have no doubt of its being ready on the opening of navigation.

The cost of this vessel up to date, is as follows:—A. Cantin, for hull, \$6,540; E. E. Gilbert, machinery, \$8,000; and Frothingham & Workman, for chains, \$5,093.86, or a total of \$19,633.86.

JACQUES CARTIER PIER AND MARKET BASIN.

The contract for this work was given out in the fall of 1871, to the Messrs. Bowie. On the opening of navigation of 1872, work was commenced. It was intended at first to make the Jacques Cartier Pier 150 feet in length, but upon representations made by the Richelieu Company, the Commissioners consented to reduce the length by about 40 feet, and at which it was built. The whole of the crib-work for this pier is sunk in 24 feet depth of water, and raised to about 6 feet above low water on the face of the Market Basin, there yet remains about 40 feet to sink. I expect to have the whole of this wharf completed early in the spring. The delay of course in the completion of this work was caused by the non-completion of the new dredge No. 4, which prevented us giving the contractors the places for his bottoms. The total amount spent this year on this work has been \$22,155.60, of which the Messrs. Bowie received \$15,330, the balance by the Trust for back filling, etc.

COMMISSIONERS' WHARF.

A considerable amount of dredging has been done here, a basin having been excavated of 300 feet in length, 100 feet in width, and to a depth of 24 feet; there has been about 200 feet of crib-work. The contractors are the Messrs. Bowie. The bulk of the dredging is completed, and the work will show a better exhibit next season. The total cost of this wharf has been \$3,070.45, of which the contractors received \$2,300, the balance of \$770.45 having been spent by the Trust themselves for back-filling, etc.

LONGUEUIL FERRY WHARF.

A contract for the extension of this wharf was awarded to Mr. D. Gaherty, on the 27th February, 1872, but that gentleman withdrew his tender shortly afterwards. Immediately, a series of new tenders were called, when this time the contract was awarded to Mr. F. B. McNamee. The work was commenced on the opening of navigation, and completed within a short time of the time specified.

This wharf is sunk in 10 feet depth of water, as it was found that the current was too swift to moor vessels here of a greater draught of water.

The total amount constructed by Mr. McNamee here, was 1,015 lineal feet, at \$17.50 per foot, amounting to \$17,762.50, and a further sum of \$3,017.15 spent by the Commissioners for the depositing of the material for back-filling, forming a total of \$20,779.05.

As you are aware, the Commissioners have this winter awarded contracts for a further extension of the above wharf as far up as the Monarque Street Wharf, a distance of 1,800 feet, in 10 feet depth of water; also the connection of the Ferry Wharf, with the Hochelaga Wharf, a distance of 2,300 feet in 24 feet depth. Both of the above contracts were awarded to Messrs. McNamee, Gaherty & Frechette, and the contract provides for their completion next fall.

I propose submitting, along with my annual Report, the plans and specifications of the proposed works at Windmill Point, which when approved of, will give 3,600 feet of wharf additional, and the plans of the wharves on the Hochelaga Shoal will be submitted shortly.

The total amount of wharfage at present in the harbour, is as follows :—11,690 feet in 20 feet depth of water, and 4,450 in 10 feet, a total of 16,140 lineal feet. We have under contract at present, Market Basin 1,000 feet, Commissioners' Wharf 1,000 feet, Ferry Wharf 1,800 feet, below the Ferry Wharf, 2,300 feet, and we propose to contract for Windmill Point 5,300, Hochelaga Shoal 6,400, or a total of about 18,000 feet, or more than doubling the present harbour.

During the course of the past year several incidents occurred, which being of interest to the Commissioners, will be my excuse for alluding to them here.

During last winter, several schooners and barges were detained here all winter, but the ice went away so easy last spring that they all escaped.

On the 11th May, the steamship *St. Patrick* while lying at the Wellington Pier, suddenly careened over and filled, remaining there several weeks before she was got up.

On the 13th June, the steamship *France*, while leaving the harbour, struck on *Ile Ronde* very heavily and commenced at once to fill. She was immediately beached near Longue Pointe. She remained here till the 14th July, before she left for Quebec.

The portion of the river where this accident occurred, as you are aware, is the small island immediately below St. Helen's Island. Opposite the centre of the City, where the current is the swiftest, the space of deep water which could be navigated by vessels of the size of the *France* is of no less a width than 1,000 feet, with water from 20 to 50 feet in depth. She had further the assistance of the *Rocket*, one of the most powerful steamers on the river, and in broad day light.

On the 7th October, the steamship *Thames*, while on her way to Quebec, came into collision with the ship *Gleniffer* and lighter *Cyclops*, sinking the latter, which was laden with a valuable cargo of goods from Quebec. This barge still lies near Varennes, where she struck.

These accidents, although very serious in their nature, might perhaps be attributed to the dangers of the Port by persons not acquainted with the facts, as in the case of the *St. Patrick*. Her accident occurred while lying at her berth, moored to the wharf; the *France* in the channel of a width of 1,000 feet, while the accident to the *Thames* occurred 30 miles from the harbour where the channel is of ample width, and the current about three miles an hour.

The total amount of tonnage at the Port this year, has been 398,800, against 353,621, an increase of about 12 per cent; but this increase has been altogether in steamers, of which there were in Port in one day no less than 12, and I am glad to see that the Harbour Master reports that no ships were detained for want of berths.

Submitting the whole for their consideration.

I have, &c.,

(Signed,) A. G. NISH,
Engineer Harbour Commissioners.

H. H. WHITNEY, Esq.,
Secretary Harbour Commissioners
of Montreal.

SIR,—I have the honour to submit the following, as my annual Report for the year 1872, with accompanying comparative statements, showing the dates of the opening and closing of navigation, of the first arrival from sea and the last vessel for sea, number of vessels, tonnage, etc., number of river craft, tonnage, etc. that have been in the port the past six years, also a list of the classification of vessels, tonnage, etc. as well as a list of the names of steamships, and number of voyages made by each of them the past season.

When the year commenced, the river was frozen over, and the ice sufficiently firm for teams to cross in all directions. The water in the harbour was then $11\frac{9}{12}$ feet above the summer level; from that date it gradually fell, until the 7th March, when it was at its lowest point, $7\frac{1}{2}$ feet above the summer level. It then began to rise again. On the 18th April, it was $9\frac{1}{2}$ feet above the summer level, when the first shove of the ice took place,

opposite the city ; after that date the ice slowly kept moving downwards. On the 23rd the harbour and river in front of the city was clear, as far as the Victoria Pier, the water then began to fall rapidly. On the 28th April, the top of the wharves were visible ; on the 29th the river was clear of ice as far as Long Point, and all the vessels that were caught in the ice, in the fall of 1871, and obliged to winter in the harbour and at Hochelaga, escaped uninjured.

On the 1st May, the vessels that wintered at Boucherville arrived in port ; on the 2nd May, two steamers arrived in port from Sorel ; and on the 15th May, the steamship *Scandinavian* arrived in port from Liverpool. She was detained at Quebec for five or six days on account of the ice in the river ; after that date the spring fleet began to arrive, and by the end of the month, the harbour was well filled with shipping of all descriptions and business brisk, which continued the whole season, excepting a short time in the latter part of September and beginning of October.

You will perceive by the accompanying statements that the trade of the port has greatly increased in the last six years, and that the vessels that now visit the port are much larger than those that came to the port some years ago, consequently of greater draft of water. To find suitable berths at all times on arrival for these large class of vessels, which are generally of great length and heavy draught of water, is a very difficult task, masters and consignees expect them to be berthed on arrival ; and when that can be accomplished, and the ship has a clear wharf to discharge her cargo upon, she generally does not remain in port longer than from five to ten days.

If importers would remove their goods when landed, so that when a ship left the berth it was ready for the next that required it, it would greatly increase the harbour accommodation, but this as a rule, they generally do not adopt, and the consequence is that when a ship leaves the berth after discharging and loading again, it is perfectly useless sometimes from eight to ten days after.

I would recommend the Commissioners to put the law in full force, and insist upon importers removing their goods, as specified in the 31st Articles of the By-Laws. Circumstances sometimes will occur that merchants cannot get their goods away in the time they would wish. The Grand Trunk Cars carried large quantities of goods from the wharves during the season, but many times they were short of cars, and could not remove the goods contracted for. The disease among the horses broke out about the 11th October, and continued to nearly the close of navigation ; then again it was difficult for merchants to remove their goods, as teams could not possibly be procured. Due allowance was made for these casualties, and all was done that could be done under the circumstances.

Want of accommodation for small vessels carrying coals from Quebec and the United States is much felt. Most of the coals that arrive in port go to West end of the city, and when these vessels cannot be accommodated in the upper part of the harbour, they go to the canal to discharge, which is a great loss to the harbour revenue.

The steamers carrying coals from the Lower Provinces are increasing in size and numbers ; some of them were granted special berths, with permission to dump their coals upon the wharves, so as to give them every facility of making as many voyages as possible. Further accommodation will be required at the upper end of the harbour for this increasing branch of business.

The export of lumber is also increasing. 66 vessels of the aggregate tonnage of 30,635 tons cleared for the River Plate, carrying 23,721,753 feet of lumber, and six vessels of the aggregate tonnage of 4,523 tons, carrying 3,115,628 feet of lumber for Cullao. This business requires large wharf accommodation ; the lumber comes into port in barges, and must be piled upon the wharves and dried before it is considered fit for shipment.

When the wharves contracted for to be built at Hochelaga are completed, they will be admirably adapted for this branch of business, and greatly relieve the upper part of the harbour.

On account of the market steamers being removed to the Bonsecours Basin, so as the contractor could proceed with the improvements in the Market Basin, without interruption, the wood, sand and brick barges were removed from the Bonsecours Basin to the

Military Basin, where the accommodation was very limited, and many of them put to great inconvenience. This movement could not be avoided at the time, and all the indulgence was granted them that possibly could be granted.

I would recommend the dredging and complete finishing of the Military Basin, so as to accommodate the largest ships of the heaviest draught of water that come to the port. It would give 1,400 feet additional wharfage in a direct line, spacious top wharfage the whole length of it, with the Grand Trunk cars running parallel with the whole line of wharf, and as near to the basin as they could conveniently get. There is no current in the basin, and large vessels could be moved at any time without difficulty or much delay. Elevators and grain barges could work at all times (except in rainy weather) and it would be, without doubt, the very best basin in the harbour for general cargo ships of a large class.

Some dredging was done on the inside of the Victoria Pier this season, which proved to be of great advantage, and enabled me to berth many large vessels at that place, where they discharged and loaded again in full.

I would recommend that the dredging all around this pier be commenced as early as possible in the spring to the full depth of water in the channel; all obstructions removed, and then when completed, vessels of the largest class could approach it with ease, and leave it without difficulty, and it would unquestionably be the best pier in the harbour for any business whatever.

All the basins in the harbour occupied by seagoing vessels require a thorough cleaning out, and the bottoms levelled; they are now very uneven, frequently causing much trouble and delay, consequently expense.

The Grand Trunk Railroad Company extended their road from the Richelieu Pier to the lower end of the Commissioners' Wharf early in the spring, and carried large quantities of railroad iron and other heavy goods from that point; but at times they were short of cars, which caused considerable inconvenience to those engaged in the lumber business in that part of the harbour.

The water kept unusually high in the harbour the whole navigable season, excepting a few days in the first week in September, when it was six inches below the summer level. On the 18th October, it was one foot above the summer level, and at the close of navigation it was down again to six inches below, or $19\frac{1}{2}$ feet in channel.

As the harbour has been considerably extended, and the trade greatly increased since I came into office, I would respectfully inform you, that I find it impossible to attend promptly to all the duties devolving upon me, over so large an extent of harbour, and in order to facilitate business, and meet the wants of those engaged in the trade of the port, assistance of some kind is necessary.

Submitting the foregoing for the information and consideration of the Harbour Commissioners.

I have the honour to be,

Your obedient and humble servant,

(Signed),

A. M. RUDOLF,

Harbour Master.

Harbour Office,

Montreal, 28th January, 1878.

PORT OF MONTREAL.

COMPARATIVE STATEMENT, showing the date of the Opening and Closing of Navigation, Arrival of the First Vessel from Sea, and the departure of Last Vessel for Sea, Tonnage, &c., of Sea-going Vessels for the past six Years.

—	Opening of Navigation.	Close of Navigation.	First Vessel from Sea.	Last Vessel for Sea.	No. of Vessels.	Tonnage.	Greatest Number in Port at one time.
1867	April 22.....	December 6.....	May 4.....	November 29.....	464	199,053	59—October, 24.
1868	" 17.....	" 6.....	" 4.....	" 27.....	478	198,750	51—June, 21.
1869	" 25.....	" 18.....	April 30.....	" 24.....	557	250,863	61—November, 4.
1870	" 13.....	" 1.....	" 22.....	" 27.....	680	316,846	62—June, 20.
1871	" 8.....	" 1.....	" 22.....	" 29.....	664	351,721	89—October, 27.
1872	May 1.....	" 8.....	May 5.....	" 28.....	727	338,800	84—October, 30.

COMPARATIVE STATEMENT showing the Number and Tonnage of River Craft, including Steamers, Schooners, Barges, Batteaux, &c., that have been in the harbour the past Six Years.

—	—	No. of Vessels.	Tonnage.	Greatest Number in Port at one Time.
1867	1867	5,248	744,477	244—October, 31.
1868	1868	5,822	746,927	297—June, 23.
1869	1869	5,866	721,324	259—November, 5.
1870	1870	6,345	819,476	255—October, 6.
1871	1871	6,878	824,787	281—October, 6.
1872	1872	7,150	936,782	309—October, 21.

Harbor Office,
Montreal, 28th January, 1873.

(Signed,) A. M. RUDOLF,
Harbor Master.

PORT OF MONTREAL.

CLASSIFICATION and Tonnage of Sea-going Vessels that have been in the Harbour for the past Six Years.

1867.	Tonnage.	1868.	Tonnage.
106 Steamships.....	87,199	105 Steamships.....	101,566
55 Ships.....	47,463	41 Ships.....	36,693
81 Barques.....	39,883	75 Barques.....	31,871
18 Brigs.....	3,757	21 Brigs.....	4,875
64 Brigantines.....	9,273	49 Brigantines.....	7,807
140 Schooners.....	11,478	187 Schooners.....	15,947
464	199,053	478	198,759

1869.	Tonnage.	1870.	Tonnage.
117 Steamships.....	117,965	144 Steamships.....	133,912
66 Ships.....	64,484	78 Ships.....	73,175
103 Barques.....	45,710	157 Barques.....	75,797
18 Brigs.....	4,735	16 Brigs.....	4,183
49 Brigantines.....	9,243	62 Brigantines.....	10,351
204 Schooners.....	17,726	223 Schooners.....	19,428
557	259,863	680	316,846

1871.	Tonnage.	1872.	Tonnage.
142 Steamships.....	146,927	215 Steamships.....	217,713
99 Ships.....	92,502	67 Ships.....	62,775
170 Barques.....	82,363	182 Barques.....	87,199
26 Brigs.....	6,539	20 Brigs.....	5,221
47 Brigantines.....	7,839	68 Brigantines.....	11,504
180 Schooners.....	15,551	175 Schooners.....	14,388
664	351,721	727	398,800

(Signed,)

A. M. RUDOLF.

Harbor Master.

Harbour Office,
Montreal, 28th January, 1873.

APPENDIX NO. 26.

RULES AND REGULATIONS FOR THE GOVERNMENT OF THE
PORT OF HALIFAX, IN NOVA SCOTIA, AND OF THE OFFICE
OF HARBOUR MASTER FOR THE SAID PORT.

RULE I.—It shall be the duty of the Harbour Master of the said port in person or by deputy duly authorized, to go on board of every ship or vessel of the burthen of fifty tons, (registered, tonnage) and upwards, which shall arrive within the Port of Halifax, within twelve hours after the arrival of such ship or vessel, to see that she is moored only in such a manner or position as shall be assigned to her by the following regulations. And it shall be lawful for such Harbour Master to ask, demand and receive, as a compensation for his services (vessels belonging to or employed by Her Majesty and the Government of the Dominion of Canada, and ships engaged in trading between Ports and places in the Dominion or in the Fishing Trade excepted,) according to the following scale, and under the restrictions mentioned in the Act 35 Vic., cap. 42, entitled: "An Act to provide for the appointment of a Harbour Master for the Port of Halifax."

Harbour Master, to go on board all vessels arriving and demand fees.

Vessels exempted from payment of fees.

Scale of Fees.

For every ship of 200 tons, or under, (registered tonnage)	\$1 00	Fees.
For every ship of more than 200 tons, but not more than 300 tons, (registered tonnage).....	2 00	
For every ship of more than 300 tons, but not more than 400 tons (registered tonnage).....	3 00	
For every ship of more than 400 tons	4 00	

RULE II.—In case of any dispute arising between masters, owners, or other persons engaged in hauling ships or vessels in or out of any of the Docks or wharves, it shall be the duty of the Harbour Master, if called upon, to give such directions as he may think fit in respect to the same; and all masters, pilots or other persons having the charge or command of any ships or vessels, shall comply with the directions of the said Harbour Master or his Deputy in these respects.

Persons in charge of vessels in Dock, &c., to comply with Harbour-master's directions.

RULE III.—If any ship or vessel arriving and anchoring, or being moored or fastened to any wharf or vessels, in the said Harbour shall be so moored or placed as to be unsafe and dangerous to any other ship or vessel previously lying at anchor in the said Harbour, or moored or fastened as aforesaid, the said Harbour Master or his Deputy is here authorized and required to forthwith order and direct the situation of such ship or vessel so arriving and anchored moored or fastened as aforesaid to be altered in such a manner as to prevent such insecurity and danger; and the master, pilot or other person having charge of such ship or vessel, shall comply with the orders and directions of the said Harbour Master or his Deputy in this respect.

Vessels dangerously moored, &c.

Harbour Master to order alteration.

RULE IV.—It shall be the duty of the Harbour Master to see that a track be left open for the Ferry Steamers between the City and Dartmouth, and also a space of two hundred fathoms eastwardly from the line of wharves (commencing at Morin's Wharf, and ending at West's) to be reserved as a passage for the Royal Mail Steamers.

Track for Ferry and Mail Steamers.

RULE V.—No steamer entering or leaving Halifax Harbour (those of Her Majesty and the Government of the Dominion of Canada excepted) shall, while inside of George's Island, proceed at more than half her usual speed.

Vessels inside of George's Island to go half speed.

Vessels short of hands.

RULE VI.—Whenever it shall happen that any ship or vessel is short of hands, so that she cannot be moved when ordered under the provisions of this By-Law, it shall and may be lawful for the Harbour Master to employ a sufficient number of hands to effect such removal, and to remove or assist in removing such vessels as may be required or necessary, and that at the expense of such vessel.

Coals, Ballast &c., falling in to Harbour.

RULE VII.—All ships or vessels lading or discharging in the stream, coals, ballast, and such like materials, shall have a sufficient piece of canvas or tarpaulin so placed as to prevent any portion thereof from falling into the Harbour.

Main jib or Spanker Booms rigged out.

RULE VIII.—Whenever the Harbour Master shall find ships or vessels at the wharves with main jib or spanker booms rigged out so as to incommode other vessels, it shall be the duty of the said Harbour Master to direct such to be rigged in, and in the event of non-compliance, all accidents to the same shall be at the risk of the persons so offending.

Ship-keeper.

RULE IX.—No vessel shall be left without some person to take care of her, by night and by day, when anchored in the stream.

Riding Lights.

RULE X.—All vessels lying at anchor in the Harbour shall keep a clear and bright light burning, at least six feet from the uppermost deck from sunset to sunrise.

Purpose for which lines to be made fast.

RULE XI.—No vessel lying in the stream shall have any tow-line, hawser, or other thing made fast to the wharf, or to the shore, except for the purpose of hauling in or out.

Hay and straw

RULE XII.—No boat or vessel which may come into any of the slips, or to any pier or wharf in the said City, laden or partly laden with hay or straw, shall have any fire on board the same.

Unloading of Ballast &c., in Harbour.

RULE XIII.—No ballast, stone, gravel, earth or rubbish of any kind, shall be unladen, cast or emptied out of, or thrown overboard, from any ship or vessel whatever in the Harbour of Halifax, or at the entrance thereof, except in places set apart for that purpose by the Harbour Master.

Ballast, &c., deposited on beach.

RULE XIV.—No ballast, stone, gravel, earth, or rubbish of any kind, shall be unladen, discharged, deposited, thrown or laid, either from any vessel, boat, scow or other such craft, or in any other manner, or by any person, from any part the Beach, or shore of the City, into any part of the Harbour, or upon the beach and shore thereof, either below low water mark, or between high and low water mark.

Explosive materials.

RULE XV.—No explosive material whatever, such as nitro-glycerine, or compounds of the same, or petroleum, shall be landed in the City of Halifax without permission, but they may be landed in such quantities as shall be stated in writing by the Harbour Master.

Vessels arriving with Gunpowder on board shall unload such within 48 hours, and before coming alongside of any Pier, &c. Gunpowder discharged to be covered securely during conveyance

RULE XVI.—If any ship or vessel arriving and coming into Harbour of the said City (those belonging to or employed by Her Majesty and the Government of the Dominion of Canada excepted) shall have any gunpowder on board exceeding the quantity of twenty-five pounds, such gunpowder exceeding that quantity shall be unladen and discharged from such ship or vessel within forty-eight hours after her arrival, and before such ship or vessel shall be brought alongside of any pier or wharf in the said City, and that whenever any gunpowder is discharged from any ship or vessel in the said Harbour, the same shall be conveyed by water, in a boat or boats, to some safe and secure place for the deposit of gunpowder without the limits of the said City during which conveyance such gunpowder shall be covered with a tarpaulin, or other secure covering.

Vessels receiving Gunpowder to be in the stream.

RULE XVII.—No gunpowder shall be taken or received on board of any ship or vessel bound to sea (those belonging to or employed by Her Majesty and the Dominion of Canada excepted) while such ship or vessel shall be and remain at any Pier or Wharf in the said City, nor until such ship or vessel shall be

cleared at the Custom House, and ready for sea, except with the knowledge and sanction of the Harbour Master; in which case, as soon as the gunpowder is on board, the vessel shall be removed to the stream, (wind and weather permitting) and, when it is intended to take or load any Gunpowder on board of any ship or vessel lying in the said Harbour, the same shall be conveyed by water to such ship or vessel, during all which conveyance such Gunpowder shall be covered in the manner hereinbefore mentioned.

Gunpowder to be securely covered during conveyance to vessels.

RULE XVIII.—It shall be the duty of the said Harbour Master or his Deputy to see that all the provisions of the Act 35 Vic, cap. 42, entitled "An Act to provide for appointment of a Harbour Master for the Port of Halifax," and the Rules and Regulations framed thereunder, together with all Laws duly authorised relating to the said Port of Halifax be duly observed; and if such Harbour Master or Deputy Harbour Master shall at any time neglect or refuse to perform any of the duties appertaining to the Office of Harbour Master under and by virtue of the Act named, he shall for every such neglect or refusal be subject to be removed and displaced from his office by order of the Governor General in Council.

Harbour master neglecting or refusing to perform his duty.

APPENDIX No. 27.

STATEMENT of the amount of Collections and Expenditure on account of Harbor Improvements, collected at the undermentioned Ports at which Tonnage Dues have been imposed by Proclamation, for the fiscal year ended 30th June, 1872.

RECEIPTS.	No. of Ships.	No. of Tons.	Amount.	Amount.
<i>Quebec.</i>			\$ cts.	\$ cts.
House Harbor	17	669	66 90	
Amherst	48	2,196	219 60	
Gaspé	6	261	26 10	
	71	3,126		312 60
<i>New Brunswick.</i>				
Bathurst	49	7,703	770 30	
Richibucto	68	11,738	1,173 80	
	117	19,441		1,944 10
Total collected				2,256 70
EXPENDITURE				
On account of Harbor Improvements, for the year ended 30th June, 1872 :—				
Richibucto			2,000 00	
Amherst, Magdalen Islands			2,427 68	
Gaspé			792 20	
				5,219 88

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st January, 1873.

APPENDIX

STATEMENT of Wrecks and Casualties to Sea-going Vessels, from 1st January, 1900, to 31st December, 1900, of Marine

Name of Vessel.	Rig.	Port of Registry.	Register Tonnage	Port sailed from and where bound to
Almira.....	Ship.....	St. John, N.B.....	1019	Brunswick, Georgia to Liverpool...
Alerte.....	do.....	.....	.....	.....
Annie.....	Barque.....	Yarmouth, N.S.....	480	Cardiff to Cienfuegos.....
Alva.....	Brigantine.....	St. John, N.B.....	158	St. John to Matanzas.....
Annie M. Cann.....	Barque.....	Yarmouth, N.S.....	672	Leith to Boston.....
Alumina.....	do.....	Liverpool.....	699	St. John, N.B. to Liverpool.....
Alice T.....	Schooner.....	St. John, N.B.....	124	do to Boston.....
Aggie Davison.....	do.....	Miramichi, N.B.....	107	Pictou to Montreal.....
Adalia.....	Steamer.....	London.....	958	Plymouth to Quebec.....
Argo.....	Barque.....	Toulon.....	740	Toulon to Quebec.....
Adriatic.....	do.....	Miramichi, N.B.....	748	Leith to Quebec.....
Agda.....	do.....	Sweden.....	600	Montreal to Hull.....
Alfredo.....	do.....	Portugal.....	226	Setuval to Quebec.....
Atlas.....	Ship.....	Gottenberg.....	666	Quebec to London.....
Albacore.....	Barque.....	Liverpool, N.S.....	246	New York to Kingston, Jamaica.....
Algonquin.....	Ship.....	Maitland, N.S.....	1234	Newcastle to Molendo.....
A. D. Widden.....	Brigantine.....	do.....	138	Kent to Portland.....
Abby Ryerson.....	Ship.....	Yarmouth, N.S.....	1146	Antwerp to Savannah.....
Agenora.....	Barque.....	Saint John, N.B.....	398	Bonctouche to Liverpool.....
Auxiliar.....	do.....	Falmouth.....	384	Quebec to Hayle.....
Anna Maria.....	Schooner.....	Parrsboro, N.S.....	.....	Sydney to Arichat.....
Amanda Jane.....	Brigantine.....	Halifax, N.S.....	182	Greenock to Halifax.....
Berwick.....	Barque.....	Windsor, N.S.....	544	Aspinwall to Cienfuegos.....
B. Rogers.....	do.....	Dublin.....	576	.....
Bidwell.....	do.....	Yarmouth, N.S.....	493	Philadelphia to Antwerp.....
Boys.....	Schooner.....	American.....	67	Marble head to Sealing banks.....
Bonetta.....	do.....	Windsor, N.S.....	118	Walton to Newhaven.....
Brittannia.....	do.....	Arichat, C.B.....	138	Loading Coals at Cowbay.....
Boudern.....	Brig.....	Foreign.....	.....	Georgetown to England.....
Branch.....	Brigantine.....	Liverpool, N.S.....	195	New York to Halifax.....
Carry.....	Schooner.....	Yarmouth, N.S.....	68	Maitland to Boston.....
Cornelia.....	Barque.....	.....	.....	Grimshy to Quebec.....
Caspian.....	Steamer.....	.....	.....	.....
Cordelia.....	Ship.....	Windsor, N.S.....	881	Liverpool to Quebec.....
Cameo.....	Barque.....	Grangemouth.....	716	Quebec to Grangemouth.....
Clarinda.....	Schooner.....	P. E. Island.....	25	Charlottetown to West Cape.....
Cleora.....	Ship.....	St. John, N.B.....	1268	Cardiff to Calbo.....
Choice.....	Brigantine.....	do.....	183	Dublin to St. John, N.B.....
Charlotte.....	do.....	Arichat.....	172	Halifax to Sydney.....
Chance.....	Schooner.....	Jersey.....	134	Jersey to Gaspé.....
Cyclone.....	do.....	St. John, N.B.....	90	St. John to Boston.....
Charlie Wood.....	Barque.....	do.....	324	Sackville, N.B. to Queenstown.....
Commander.....	Steamship.....	Newcastle.....	1160	Quebec to Queenstown.....
City of Manchester.....	Ship.....	Quebec.....	1115	Quebec to England.....
Champion.....	Brigantine.....	Lunenburg.....	146	Halifax to Porto Rico.....
Dacian.....	Steamer.....	Glasgow.....	667	Clambay.....
Dominion.....	Brig.....	American.....	130	Pictou to Pembroke.....
Defender.....	Barque.....	South Shields.....	336	South Shields to St. John, N.B.....
Dove.....	Schooner.....	Yarmouth, N.S.....	33	St. John, N.B. to Campobello.....
Dundee.....	Brigantine.....	Windsor, N.S.....	126	Charlottetown to Boston.....
Edward.....	Barque.....	Maitland, N.S.....	575	Halifax to New York.....
Emma.....	Schooner.....	St. John, N.B.....	121	St. John to Newhaven.....
Emma.....	do.....	Lunenburg, N.S.....	93	Lunenburg to Antigua.....

No. 28.

1872, to 1st January, 1873, as compiled from returns received by the Department and Fisheries.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
Mar. 6	Supposed to have foundered at sea			All	Total, \$24,500.
Feb. 21	Halifax				
Mar. 27	San Felipe, Cuba	Stranded	Strong current	None	Total, \$52,600.
Mar. 27	Long. 24° N., Lat. 62° W.	Abandoned	Stress of weather		do \$8,026.
" 3	Lat. 43° 20', Long. 53° 30'	do	do	"	do \$41,200.
May 5	North of St. John Harbour	Stranded	Accidental	"	Partial, \$10,000.
Jan. 20	10 miles North of Brien Island.	Waterlogged	Stress of weather	"	do \$6,000.
June 17	Harbor of Quebec	Collision	Run into	"	do \$400.
" 25	South side St. Paul's Island	Stranded	Fog	"	Total, \$150,000.
Aug. 31	Between Cariboo & Egg Island.	Foundered	Attraction of compass	Eight	do \$32,000.
" 9	Basque Island	Collision	Fog	None	Partial, \$1,400.
Oct. 2	S. W. Point of Anticosti	Stranded	Stress of weather	"	Total, \$1,800.
" 14	Point St. Valier	do	Error of judgment	"	do \$8,600.
Nov. 8	Sandy Bay	do	Stress of weather	"	do \$15,000.
"	do	do	do	"	do \$5,000.
"	At sea	Foundered	do	None	do \$30,000.
Nov. 30	Near Apple River, Cumb. Co.	Stranded	Stress of weather	Four	do \$2,500.
" 25	Off Tybee Island	do	Error of judgment	None	Trifling damage \$1000
Dec. 1	N. W. side Grindstone Island	do	Unknown currents	"	Total, \$17,000.
Nov. 8	Cape Jack, straits of Canso	Loss of anchors and chains	Stress of weather	"	Partial, \$1,000.
"	Near Point Aconie				
April 1	Amazon River	Stranded	Stress of weather	None	Partial.
April 27	Quinte Suano reef	Stranded	Not known	None	Total, \$11,000.
Aug. 16	Newport Harbor	Collision	Run into & sunk	"	do \$12,000.
Mar. 19	Lat. 37° 31' N., Long. 59° 59' W	Abandoned	Stress of weather	None	do \$36,000.
May 20	S. side of Sable Island	Stranded	Fog	"	do \$4,000.
Oct. 21	Bunkers Ledge	do	Stress of weather	"	do \$4,160.
Dec. 14	do	do	do	"	do \$3,000.
" 29	Toumure Island	do	do	"	do
" 28	Duncan's Reef	do	Stress of weather	None	do \$9,000.
April 26	Mount Desert	Capsized	Stress of weather	None	Total, \$5,900.
May 15	Near St. Paul's				Partial.
"	Belle Isle, Gulf St. Lawrence				do
Aug. 10	Scattarie Island, E. S. E.	Stranded	Unknown currents	None	Total, \$18,000.
Nov. 4	St. Jean Port Joli	Collision	Run into	"	Partial, \$240.
" 10	Gull Island	Stranded	Stress of weather	"	do \$300.
"	Never heard of since date of departure in November, 1871.				
"	Lost at sea	Lost at sea			Total, \$65,000.
Nov. 25	Winning Point Cape Breton	Stranded	Stress of weather	None	do \$3,000.
May 14	Gulf St. Lawrence	Foundered	by the ice	"	do
Dec. 12	Cow Ledge	Stranded	Stress of weather	"	Partial, \$850.
" 20	Schooner Cove, Campobello	do	do	"	Total, 2,500.
Nov.	Supposed to have foundered off Sydney			All	do
" 30	At sea	Abandoned	Waterlogged	None	do \$2,500.
" 4	Sambro	Loss of spars	Stress of weather	"	Partial, \$1,600.
"					
Aug. 17	Beal's Island	Stranded	Not known	None	Total, \$7,000.
" 31	Grindstone Island	do	Stress of weather	"	do \$6,000.
Nov. 30	Saunders Beach	do	do	"	do \$600.
Dec. 10	Yarmouth Sound	do	Parting of chain	"	Partial, \$1,800.
Aug. 30	New York	Fire	Not known	None	Total, \$12,000.
Feb. 4	Green Island Ledge	Stranded	Dragging of anchors	"	Partial, \$4,190.
Mar. 3	Lat. 33° 10', Long. 63° 10'	Capsized	Stress of weather	One	do \$5,200.

STATEMENT of Wrecks and Casualties to Sea-going Vessels

Name of Vessel.	Rig.	Port of Registry.	Register Tonnage.	Port sailed from and where bound to.
Ethel.....	Brigantine...			
Emperor.....	Steamer.....	St. John, N.B.	1600	Yarmouth, N.S. to Boston, U.S.
Edith Emily.....	do.....	West Hartlepool.....	1120	Liverpool to Montreal.....
Eugenia.....	Barque.....	Yarmouth.....	433	Yarmouth to Monte Video.
Europa.....	do.....	St. John, N.B.	297	Sydney, C.B. to St. John, N.B.
Ellen.....	Schooner.....	do.....	120	Pictou to St. John, N.B.
Evadne.....	Ship.....	Sunderland.....	428	Shields to Quebec.....
Elpida.....	Ship.....	Plymouth.....		
E. B. Hays.....	Barque.....	P. John, N.B.	761	New Orleans to Liverpool.....
Echo.....	Schooner.....	St. E. Island.....	65	Sydney, C.B. to Charlottetown.....
Enigma.....	Barque.....	Yarmouth.....		Yarmouth to Monte Video.....
Eunice Dexter.....	Schooner.....	Liverpool, N.S.	51	On trading voyage.....
Emperor.....	Barque.....	London.....	625	Quebec to Bristol.....
Frank Lovitt.....	Barque.....	Yarmouth, N.S.	598	Antwerp to Philadelphia.....
Forest Chief.....	Ship.....	Halifax, N.S.	1,045	New York to Londonderry.....
France.....	Steamer.....	Liverpool.....	2,429	Montreal to Liverpool.....
Formosa.....	Brig.....	Rostock.....	258	Quebec to London.....
Fanny R.....	Schooner.....	Gloucester.....	55	Gloucester to Port Hood.....
Francis Collins ..	Barque.....	St. John, N.B.	413	St. John to Brazil.....
General Canrobert..	Brigantine ..	Arichat, C.B.	134	Arichat to St. John.....
Gracie.....	Barque.....	American.....	461	Belfast to Quebec.....
Golconda.....	Ship.....	Liverpool.....	1,030	Liverpool to Quebec.....
Glad Tidings.....	Schooner.....	Liverpool, N.S.	53	Not known.....
Germania.....	Barque.....	Griefswald.....	318	Quebec to Cork.....
G. Palmer.....	do.....	St. John, N.B.	306	Cork to Richibucto.....
Grace Sargeant.....	Ship.....	Yarmouth.....	1,243	Mejilloes to Hamburg.....
Glendon.....	Schooner.....	St. John, N.B.	175	Portland to St. John, N.B.
George Cairns.....	Steamer.....	Newcastle, England.....	729	Montreal to Limerick.....
Haidee.....	Brig.....	Shelburne, N.S.	131	Wilmington to Kingston.....
Highland Mary.....	Barque.....	Yarmouth, N.S.	641	Liverpool to Quebec.....
Horseguard.....	do.....	Leith.....	909	Glasgow to Montreal.....
Haleyson.....	do.....	Hull.....	359	Quebec to Hull.....
Hector.....	do.....	St. John, N.B.	715	Liverpool to New York.....
Helen Miranda.....	Schooner.....	American.....	45	Strait of Canoe to Halifax.....
Henrietta.....	do.....	St. John, N.B.	30	Sydney to Halifax.....
Humber.....	Ship.....	London.....	1,403	Taking in cargo.....
H. Havelock.....	Brigantine ..	Windsor, N.S.	108	Cheverie to Salem.....
Heron.....	Barque.....	Sunderland.....	283	Bordeaux to Quebec.....
Hattie S. Clarke.....	Schooner.....	Gloucester.....	70	Gloucester to Bay of Islands.....
Hector.....	Steamer.....	Sunderland.....	1,533	London to Montreal.....
Harold.....	Brigantine ..	St. John, N.B.	260	St. John to Cuba.....

from 1st January, 1872, to 1st January, 1873, &c.—Continued.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
.....	Lat. 33° 10', Long. 63° 10'...				
May 28	Seal Rocks, Maine.....	Stranded.....	Strong current.....	None.....	Total, \$41,200.
Aug. 31	N. Pointe des Monts.....	do.....	do.....	do.....	do \$45,000.
" 31	Lat. 30° N., Long. 58° W.....	Foundered.....	Stress of weather.....	".....	do \$23,000.
Nov. 7	Cross Island.....	Stranded.....	Chronometer out of order.....	".....	do \$7,100.
" 30	St. John Harbor.....	do.....	Stress of weather.....	".....	Partial.
May 28	Gulf St. Lawrence.....	Foundered.....	By the ice.....	".....	Total, \$8,500.
Nov. 7	Cape Core, near Gaspé.....	Stranded.....	do.....	do.....	do
" 13	Near Bahahonda, Cuba.....	do.....	Not known.....	None.....	Partial.
Dec. 19	Cheticamp Island.....	do.....	Stress of weather.....	".....	do \$300.
"	At sea.....	Abandoned.....	do.....	".....	do
Oct. 16	Labrador coast.....	Stranded.....	do.....	".....	Total, \$3,500.
Nov. 27	St. Paul's Island, N. side;				
(1871).	smashed against the rock in snow storm.....			Sixteen.....	do
July 17	Lat. 46° 30', Long. 41° 31'.....	Abandoned.....	Leaky.....	None.....	Total, \$13,200.
"	Irish coast.....	Stranded.....	Stress of weather.....	do.....	do \$35,000.
June 13	Near Montreal.....	do.....	Not known.....	do.....	Partial.
Dec. 1	Orignole Bay.....	do.....	Stress of weather.....	do.....	do
do 23	Eastern side of Port Hood harbor.....	do.....	Parting of chain.....	do.....	do \$500.
do 20	Lat. 33° 19' N., Long. 74° 38' W.....	Abandoned.....	Stress of weather.....	do.....	Total, \$29,508.
April 19	Halifax harbor.....	Stranded.....	Dragging of buoy.....	None.....	Partial.
Aug. 9	Basque Island, St. Lawrence.....	Collision.....	Fog.....	do.....	do \$5,000.
May 1	Off Cape Rae, Gulf St. Lawrence.....	Foundered.....	Ice.....	do.....	Total, \$30,000.
do 15	Abandoned.....			do.....	do \$1,250.
July 12	Traverse on wreck of sunken steamer.....	Stranded.....	Error of judgment.....	do.....	Partial, \$3,600.— Pilot was tried and condemned by Trinity House, Quebec.
.....	Cape North, P. E. Island.....	do.....			
April 19	Lat. 47° N., Long. 81° 3' W.....	Foundered.....	Stress of weather.....	None.....	Total, \$24,000.
Aug. 19	East head Musquash Harbor.....	Stranded.....	Fog.....	do.....	Partial, \$7,200.
Sept. 4	30 miles E.N.E. Low Point Light.....	Foundered.....	Accidental.....	Eight.....	Total, \$14,580.
June 21	Off Irraque.....	Stranded.....	Stress of weather.....	None.....	Total, \$3,900.
Sept.	Off Grand Banks.....	Abandoned.....	do.....	do.....	do \$13,000.
May 8	Lat. 48° N., Long. 60° 14' W.....	Stove in by the ice.....		do.....	Partial.
Nov. 28, 1871.	Magdalen Island.....	Stranded by the ice.....		Four.....	Total, \$8,000.
.....	Never heard of.....		Not known.....	Twelve.....	do \$20,000.
Aug. 24	Entrance Strait of Canso.....	Stranded.....	Bad look out.....	None.....	Partial.
Oct. 20	Off White Island.....	Collision.....	Dense fog.....	do.....	do
Nov. 30	South side of Reed's Wharf.....	Struck the wharf.....	Stress of weather.....	do.....	do \$800.
do 30	Near Musquash harbor.....	Stranded.....	do.....	do.....	do \$400.
May 26	Near St. Paul's Island.....	Foundered.....	By the ice.....	do.....	Total, \$9,000.
Dec. 15	East side Port Hood harbor.....	Stranded.....	Error of judgment.....	do.....	Partial, \$150.
Nov. 18	Lat. 48° 50' N., Long. 48° 20' W.....	Loss of mast, sails, &c.....			
do 23	N.W. of W. Quoddy.....	Stranded.....	Stress of weather.....	do.....	do
			Accidental.....	do.....	Total, \$10,000.

STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Name of Vessel.	Rig.	Port of Registry.	Register. Tonnage.	Port sailed from, and where bound to.
J. R. Amiro.....	Schooner...	Yarmouth, N.S.....	52	Boston to Yarmouth.....
James.....	Brigantine...	Hawkesbury, N.S.....	149	Halifax to Yarmouth.....
Juno.....	Brig.....	Annapolis, N.S.....	231	Boston to St. John, N.B.....
John Byers.....	Brigantine...	St. John, N.B.....	169	Baltimore to Georgia.....
John Bunyan.....	Barque.....	Glasgow.....	927	Glasgow to Quebec.....
Jessie (Limerick) ...	do.....	Limerick.....	742	Quebec to Limerick
Jane.....	do.....	Hayle.....	449	Quebec to Falmouth.....
Jessie (St. John)....	Schooner...	St. John, N.B.....	72	St. John, N.B., to Boston.....
Julia Clinch.....	do.....	St. Andrew, N.B.....	133	.....
John and Henry.....	do.....	Salisbury.....	125	.....
John Bull.....	do.....	Aricat.....	116	Lingan to Boston.....
Jessen.....	do.....	Lunenburg.....	68	Halifax to Boston.....
Jeddo.....	do.....	St. John, N.B.....	103	St. John.....
J. B. Duffus.....	Barque.....	Yarmouth, N.S.....	672	.....
Kensington.....	Barque.....	Yarmouth, N.S.....	828	South Shields to Philadelphia.....
Kate.....	Schooner...	St. John's, Newfoundland	68	St. John's, Newfoundland, to Quebec
Lamartine.....	Schooner...	Yarmouth.....	38	Yarmouth to St. John, N.B.....
Louisiana.....	do.....	Quebec.....	82	Montreal to Newfoundland.....
Lake Huron.....	Ship.....	Glasgow.....	820	Quebec to Liverpool.....
Lady Westmoreland	Barque.....	Newcastle.....	829	Newcastle to Quebec.....
Lebanon.....	do.....	North Shields.....	717	Three Rivers to Greenock.....
Lizzie Troop.....	Brigantine...	St. John, N.B.....	207	Turks Island to Delaware.....
Lebanon.....	Barque.....	North Shields.....	717	Three Rivers to Greenock.....
Lady Bird.....	Brigantine...	Quebec.....	150	Quebec to Newfoundland.....
Liverpool.....	Barque.....	Grangemouth.....	507	Quebec to Troon.....
Lincoln.....	do.....	North Shields.....	1,182	Quebec to London.....
Lake Constance.....	Ship.....	Glasgow.....	500	Montreal to London.....
Lottie C.....	Schooner...	St. John, N.B.....	63	St. George to Jamaica.....
Lord of the Isles.....	do.....	Halifax.....	80	St. Martins to Halifax.....
L. W. Eaton.....	Brigantine...	Lunenburg, N.S.....	141	Halifax to Montreal.....
Maggie A. Smith...	Schooner...	St. John, N.B.....	72	St. John to Boston.....
May Flower.....	Brig.....	Halifax, N.S.....	122	Boston to Halifax.....
Monitor.....	Schooner...	Yarmouth, N.S.....	105	Nevis to Yarmouth.....
Mary Leblanc.....	Brig.....	.....	.....	Port au Prince to Boston.....
Maria.....	Schooner...	Hawkesbury, N.S.....	18	On fishing voyage.....
Manitoba.....	Barque.....	Yarmouth, N.S.....	698	New York to Breton Ferry.....
Mozart.....	do.....	Windsor, N.S.....	.....	Southern States to Liverpool.....
Mary Lucy.....	Schooner...	Halifax, N.S.....	54	Bonne Bay, Newfoundland, to Prince Edward Island.....
Maggie.....	Brig.....	do.....	263	New York to Santa Martha.....
Mineola.....	Brigantine...	St. John, N.B.....	233	Sydney, C.B. to St. John, N.B.....
Maria Victoria.....	Schooner...	Quebec.....	97	Glasgow to Quebec.....
Maria Attala.....	do.....	do.....	.....	Cape Cove to Quebec.....
Maggie P. S. Lord...	Barque.....	Prince Edward Island.....	449	Loading at Pictou for Aspinwall.....
Mystic Tie.....	Schooner...	St. Andrew, N.B.....	32	St. John, N.B. to St. Andrew, N.B.....
Maria.....	Brigantine...	Digby, N.S.....	83	Freeport to Barbadoes.....
Maria Adele.....	Schooner...	Quebec.....	87	Montreal to Richibucto.....
M. B. Almon.....	Barge.....	Sydney, C.B.....	388	Loading at Cow Bay.....
Masonic.....	Brigantine...	St. John, N.B.....	178	Dorchester, N.B. to Boston.....

from 1st January, 1872, to 1st January, 1873, &c.—Continued.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
April 10	Near Cove Ledge, N.S.	Stranded	Fog and current	None	Partial.
do 11	Off Yarmouth	do	Becalmed & driven ashore	do	Total, \$6,200.
July 17	Swan's Island	do	do	do	do \$5,000.
May 5	Bogue Banks, North Carolina.	do	Stress of weather	None	do \$13,200.
Oct. 2	13 miles below St. Anne des Monts	do	do	do	do \$1,600.
Nov. 8	Sandy Bay, Metis	Loss of masts, &c.	do	do	Total, \$3,500.
do 13	River Blanche	Stranded	do	do	Partial.
Dec. 21, 1871	Off Cape Porpoise	do	Stress of weather	None	Total, \$3,900.
Nov. 8	Near Rockland, Maine	Dismasted	do	Six	do \$3,500.
Dec. 13	Cape Cove, near Gaspé	Stranded	do	do	Partial, \$150.
do 15	De Grut harbor	do	Mistook channel	do	do
do 23	Yarmouth harbor	do	Stress of weather	do	do
do 28	Hedge Fence	do	Fire	do	do
Mar. 20	2 miles S. of Ardmillan Point	Stranded	Stress of weather	None	Partial, \$15,000.
Oct. 28	Red Island Reef	do	Not known	do	Total, \$1,000.
Jan. 20	Falls Harbor, N.S.	Stranded	Parting of chains	None	Total, \$1,000.
May 16	Off black buoy, St. Thomas	Collision	Fault of pilot on other vessel	do	Partial, \$400.
do 7	1 mile from S.W. point Anticosti	Stranded	Fog and current	do	Total, \$23,000.
do	White Island Reef, St. Lawrence	do	Error of judgment	do	do \$14,000.
July 16	Beauport Flats, Quebec harbor	do	do	do	Partial, \$4,000.
do	Never heard of	do	do	Nine	Total, \$6,000.
Oct. 2	Anticosti, near Pavillon River	Stranded	Stress of weather	None	do \$25,000.
June 11	Bryon Island	do	Error of judgment	do	Partial.
Nov. 8	Basque Island	do	Stress of weather	do	do
do 7	Percee's Rock	do	do	do	do
do 7	8 miles off Pointe des Monts	Foundered	Shifting of cargo	One	Total, \$75,000.
Dec. 26	Basque harbor	Stranded	do	None	do
do 26	Ironbound Island	do	do	Three	do \$3,000.
Oct. 27	Off Sea Wolf Light	do	do	None	Partial, \$1,000.
Mar. 6	40 miles east of Cape Cod	Abandoned	Sprung a leak	None	Total, \$2,807.
April 10	Seal Island	Stranded	Mistook fog whistle	do	Partial.
do 2	Off St. Martins	Sprung a leak	Leak	do	do \$5,800.
May 1	Cassel Island	do	do	do	do
April 20	12 miles S.S.E. of Bird Rocks	Crushed by the ice	do	None	Total, \$560.
Jan. 31	Bucks Rock	Stranded	Mistook light	Four	do \$30,000.
Mar. 4	do	do	do	None	do \$13,000.
Sept. 4	Cheticamp, Cape Breton	Stranded	Unseaworthy	do	do \$2,000.
do	Santa Martha	Burnt	Not known	do	do \$15,000.
do	Not known; never heard of	do	do	All lost	do \$10,000.
Nov. 7	River Blanche, St. Lawrence	Stranded	Stress of weather	None	Partial.
do 7	Sandy Bay, Metis	do	do	do	do
do 7	Pictou, N.S.	Burnt	Accidental	do	Total.
do 8	St. Andrew, N.B.	Stranded	Stress of weather	do	do \$12,000.
Aug. 14	Lat. 27 N, Lon. 58 W	Waterlogged	do	do	do \$5,500.
do	Off Magdalen Islands	Loss of anchors, chains, &c.	do	do	Partial, \$100.
do	do	Stranded	do	do	Total, \$10,000.
Dec. 19	At sea	Abandoned	do	do	do \$6,000.

STATEMENT of Wrecks and Casualties to Sea-going Vessels,

Name of Vessel.	Rig.	Port of Registry.	Register Tonnage.	Port sailed from, and where bound to.
Mary Givan.....	Brigantine	Bridgetown, N.S.	170	Philadelphia to Boston.....
Magdala.....	Brig	St. John, N.B.	215	St. John, N.B. to Havana.....
Mary.....	Schooner	Halifax, N.S.		Halifax to Sydney.....
Maryville.....	do	St. John, N.B.	70	St. John, N.B., to Herring Gut..
Napier.....	Brig	Sydney, C.B.	385	Sydney to Santiago.....
Norn.....	Barque	Pictou, N.S.	513	Boston to Pictou.....
Nina.....	do	Montrose	663	Leith to Quebec.....
N. J. Miller.....	Brig	St. John, N.B.	115	.....
Nelson.....	Ship	St. Andrews, N.B.	942	Liverpool to Quebec.....
New Dominion.....	Schooner	St. John, N.B.	70	Portland to St. John, N.B.....
Nathaniel D. Carlisle	Barque	Pictou, N.S.	77	Montreal to Monte Video.....
Natolia.....	Ship	North Shields	1,075	North Shields to Quebec.....
Oneida.....	Ship	Quebec	1,134	Quebec to Valparaiso.....
Ormen.....	Barque	Laurock, Norway	293	Halifax to Miramichi.....
Ocean Gem.....	do	London	324	Montreal to London.....
Oriental.....	do	Quebec	450	Quebec to Liverpool.....
P. Grant.....	Schooner	Windsor, N.S.	140	Rockland to Halifax.....
Phoebe Ellen.....	Brigantine	do	181	St. John, N.B. to Havana.....
Peri.....	Schooner	Dartmouth	125	Gaspé to Jersey.....
Premier.....	Barque	Beaumaris	307	Quebec to Holyhead.....
Princess Louise.....	Ship	St. John, N.B.	837	New York to Queenstown.....
Pioneer.....	Schooner	Parrishoro, N.S.	100	Windsor to Portland.....
Princess Louise.....	do	Halifax	60	Sydney to Halifax.....
Pearl.....	do	Halifax		On trading voyage.....
Queen.....	Barque	British		.....
Ripple.....	Schooner	Lunenburg, N.S.	62	Shelburne to Boston.....
Rival.....	do	St. John, N.B.	55	Goosecreek to St. John, N.B.....
Rough Diamond.....	do	do	128	Newhaven to do.....
Russia.....	Barque	Sligo	349	Quebec to Sligo.....
Restless.....	Schooner	Dorchester	66	Eastport to fishing grounds.....
R. B. Pattison.....	do	St. John, N.B.	156	New York to St. John, N.B.....
Rescue.....	do	Dartmouth	90	Loading at port Caledonia.....
Reward.....	do	Windsor, N.S.	104	Windsor to Portland.....
Royal Charter.....	Ship	Yarmouth, N.S.	1,248	Antwerp to Montreal.....
Railway King.....	Barque	Charlottetown	790	Pictou to Havana.....
Robert Foulton.....	Schooner	St. John, N.B.	114	New York to Manzanillo.....
Rhea Sylvia.....	Barque	Halifax, N.S.	360	New York to Havana.....
Rainbow.....	do	do	581	Cardiff to Galveston.....
Sarah Sloane.....	Barque	St. John, N.B.	388	St. John, N.B. to Havana.....
Stampede.....	do	do	306	do to Cardenas.....
Scotland.....	Brigantine	Barbadoes	139	Demerara to New York.....
Serial Star.....	Barque	Yarmouth, N.S.	610	London to Philadelphia.....
St. Andrew.....	do	St. John, N.B.	752	Newport to Quebec.....
Sharon.....	Ship	do	1,143	Liverpool to New York.....
Sailor's Home.....	do	London	1,233	Sunderland to Quebec.....
Star of the Sea.....	Schooner	Quebec		Cape Cove to do.....
Sunbeam.....	Ship	do	993	London to Savannah.....
Sea King.....	Schooner	St. John, N.B.	160	New York to Halifax.....
Stella.....	Barque	Yarmouth, N.S.	454	Providence to Charlottetown.....
ummer.....	Brigantine	St. John, N.B.	308	St. John to Cardenas.....

from 1st January, 1872, to 1st January, 1873, &c.—Continued.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
Dec. 1	Nashawan Point	Stranded	Stress of weather	One	Total, \$5,000.
do 1	Yarmouth Harbor	do	Mistook channel	None	Partial, \$600.
do 24	Arichat	do	Not known	do	do
do 7122	Cape Ann, N. N. E. 2 miles	do	Stress of weather	do	Partial.
Dec. 15	Lat. 40, Lon. 57	Abandoned	Stress of weather	One	Total, \$7,000.
Sept. 13	S. side of Island Harbor	Stranded	do	None	Partial.
May 10	St. André Bank, River St. Lawrence	do	Error of judgment	do	do \$2,400.
.....	.....	Abandoned .....	.....	do	Total, \$4,000.
Aug. 31	Pillar Rock	Stranded	Pilot to blame	None	Partial, \$3,200.
Dec. 23	do	do	Not known	do	do
do 4	Rio Fogo	do	Stress of weather	do	Total, \$42,000.
May 7	E. point of Anticosti	do	Not heaving lead	do	Partial.
Dec. 1	9 miles N. of Cape Ray	Stranded	Stress of weather	None	Total, \$40,000.
May 22	Tormentine Reef	do	Error in chart	do	Partial.
Nov. 25	Bic Island	do	Parting of chain	do	Total, \$16,000.
do 26	At sea	Waterlogged	Stress of weather	do	do \$9,000.
Mar. 12	Cape Sable, E. 40 miles	Abandoned	Stress of weather	One	Total, \$7,640.
Jan. 8	Young's Cove, N.S.	Stranded	do	Five	do \$9,159.
Nov.	River St. Lawrence	do	Ice	One	do \$3,000.
Sept. 14	Off Lévis, Harbor of Quebec	do	Error in judgment	None	Partial, \$2,000.
Oct. 10	Lat. 43.25 N., Lon. 40.18 W.	Took fire	Not known	do	Total, \$45,000.
Nov. 39	Croachville	Stranded	Stress of weather	do	Partial.
.....	Off Cape Breton	Foundered	do	do	Total, \$2,000.
Oct.	On Labrador Coast	do	do	do	do
Sept. 8	Cape Tormentine	Stranded	Stress of weather	None	Total.
Mar. 5	Skipnotic Beach	Stranded	Stress of weather	None	Total, \$3,000.
Jan. 7	St. Croix Bay	do	do	Four	do \$2,250.
do 4	Hampton Beach	do	Dragging of anchors	None	Partial, \$3,500.
do 716	5 miles N. of S.W. Pt. Anticosti	do	Ice	One	Total, \$10,000.
June 8	Spruce Island	do	Fog and current	None	Partial, \$525.
.....	Not known; never heard of	Not known	Not known	Six	Total, \$8,800.
Nov. 1	Caledonia Port	Stranded	Broke from moorings	None	Not known.
do 30	Off St. John Harbor	do	Stress of weather	Six	Total, \$3,000.
May	Anticosti	do	do	None	Partial.
Dec. 8	Graham's Ledge, C. Canso	do	do	do	Total, \$48,000.
do 24	Off Cape de Cruze	do	do	do	do \$7,000.
May	Macam's Reef	do	do	do	do
Sept.	Nevis	do	do	do	Partial.
Mar. 12	North Head, Grand Manan	Stranded	Stress of weather	Ten	Total, \$15,958.
Feb. 9	At sea	Waterlogged	do	None	do \$10,681.
Mar. 27	do	Abandoned	do	do	do
do 2	Round Bay, N.S.	Stranded	Short of hands	do	Partial.
June 10	Barrett's Ledge	do	Carelessness of pilot	do	do \$3,500.
Oct. 10	At sea	Burnt	Not known	do	Total, \$70,000.
Aug. 31	East end of Red Island Reef	Stranded	Error in judgment	do	Partial, \$3,300.
Nov. 7	Cariboo Islands	do	Stress of weather	do	do
Oct 7121	Ossaba	do	Not known	do	do \$15,000.
Nov. 7	1 mile to N. of Cape St. Mary	do	Stress of weather	Eight	Total, \$6,000.
Oct. 24	4 miles N. of Cape Lookout	do	do	None	do \$16,000.
Nov. 28	Sail Rock, W. Quarry Head	do	do	do	do \$18,500.

STATEMENT of Wrecks and Casualties to Sea-going Vessels

Name of Vessel.	Rig.	Port of Registry.	Register Tonnage.	Port sailed from, and where bound to.
Spring Bird	Schooner ..	Parraboro, N.S.	93	Windsor to Eastport.....
Sword Fish	do	Miramichi, N.B.	32	Pictou to Malpec
Stafford	Brig	Windsor, N.S.	341	New York to Salerno
Southern Belle	Barque	Yarmouth, N.S.	590	Pillan to Sandswall
Sarah McLeod	do	Miramichi, N.B.	796	Pictou to Havana
Saint Mary	Schooner ..	Hawkesbury	25	Halifax to Margaree
Silver Arrow	do	St. Pierre Miquelon ..	96	St. Pierre Miquelon to Baddeck
Seaforth	Ship	Halifax, N.S.	1,103	Antwerp to Yokohama
Sceptre	Schooner ..	St. Stephen, N.B.	58	St. John to Portland
Seriole	do	Halifax	83	Halifax to Demerara
Tadmor	Barque	Grangemouth	625	Grangemouth to Quebec
Triton	Brig	Cardigan	256	Quebec to Cardigan
Tropic Bird	Schooner ..	St. John, N.B. ....	.....	New York to St. John, N.B.
Thames	Barque	Liverpool	426	Aberdeen to Richibucto
Thomas Daley	Schooner ..	Weymouth, N.S.	46	Port Gilbert to Boston
Tempo	do	St. John, N.B. ....	.....	St. John, N.B. to Boston
Topsey	do	Digby, N.S.	80	Princetown to Annapolis
Viola	Schooner ..	St. John, N.B.	42	Wolfville to Boston
Vincent White	do	do	130	St. John, N.B. to Cardenas
Vicksburg	Steamer	Liverpool	1,597	Liverpool to Montreal
Veritas	Barque	Belfast	394	Loading at Matane for Belfast
Volunteer	Schooner ..	.....	.....	Windsor to Portland
Wasp	Barque	Quebec	443	Montreal to Antwerp
Wallace	Schooner ..	Great Egg Harbor .....	.....	.....
Wilfred	Brig	Yarmouth, N.S.	96	Yarmouth to Martinique
Warspirit	Ship	St. John, N.B.	1,234	St. John, N.B. to Liverpool
Watchmate	Brig	Clementsport, N.S.	148	New York to Exeter
William the Third	Schooner ..	Antigonish	60	.....
Welcome Return	do	Halifax	42	St. John's, Newfoundland, to Halifax

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st January, 1873.

from 1st January, 1872, to 1st January, 1873, &c.—*Concluded.*

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
Nov. 30	Saunders Beach	Stranded	Stress of weather .	None	Partial, \$450.
do 8	Gulf St. Lawrence	Abandoned	do	do	do \$725.
Dec. 5	Salerno	Stranded	do	do	do
Nov. 13	Off Copenhagen	Sunk	Hurricane	do	Total, \$20,000.
Dec. 20	Point Maruche, C.B.	Stranded	Stress of weather .	do	do \$22,794.
Nov. 9	Port Hood Harbor	do	Broke from fastenings .	do	Partial, \$200.
Oct. 14	West Point Flint Island	do	Stress of weather .	do	Total, \$1,600.
March	At sea	Foundered	Not known	Thirteen . .	do \$20,000.
Aug. 30	St. John, Island, Maine	Stranded	Stress of weather .	None	do \$1,600.
Sept. . .	Lat. 28°.36', Lon. 60°	Abandoned	do	do	do \$1,500.
May 5	Fox Bay, Anticosti	Stranded	By the ice	None	Not known.
Nov. 7	Pillars	Collision	Error in judgment .	do	Partial, \$40.
do 12	Whitehead	Stranded	Not known	do	do
do 3	Entrance Richibucto Harbor	do	do	do	do
Dec. 3	Near Yarmouth Harbor	do	Stress of weather .	One	Total, \$1,600.
do 23	Campo Bello	do	do	None	Partial.
Nov. 8	Off New Pier, Port George	Foundered	do	do	Total, \$400.
Jan. 26	Mispec Bay	Stranded	Parting of chain . .	One	Total, \$1,560.
Aug. 9	Apple Island	Stranded	Error in judgment .	None	Partial, \$240,000.
Oct. 4	Little Matane	do	Stress of weather .	do	Total, \$6,800.
Nov. 30	Courtney Bay	do	do	do	Partial.
Nov. . .	River St. Lawrence	Stranded	Cold weather, & ice .	Ten	Total, \$13,000.
Oct. 5	do	Collision	do	do	do
do 8	St. Pierre, Martinique	Stranded	Stress of weather .	None	Total, \$3,000.
do . . .	At sea	Abandoned	Waterlogged	do	do \$2,400.
Oct. 31	Lat. 36° N., Lon. 65° W.	Fire	Not known	Eight	do \$1,500.
Dec. 23	Leath House	Stranded	Stress of weather .	Two	do \$1,200.
Oct. 16	Off Cape North	do	do	None	do \$75,000.

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

APPENDIX

STATEMENT of Wrecks and Casualties that have happened on the Lakes and

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from and where bound to.
Argyle	Propeller			
Alpha	Schooner	St. Catharines	270	St. Catharines to Toronto
Advance	Tug	Brockville	60	Towing near Toronto
Algoma	Steamer	Montreal	416	Collingwood to Duluth
Algoma	do	do	416	Collingwood to Wellington Mines
Anne Sherwood	Schooner	American	622	Buffalo to Chicago
Belle McPhie	do	Owen Sound	150	Fairhaven to Toronto
Bruno	Propeller	Montreal	379	Hamilton to Montreal
Champion	Steamer	do	597	Montreal to Toronto
Cumberland	do	Port Robinson	629	Collingwood to Duluth
Chicora	do	Montreal	550	do do
D. R. Martin	Schooner			Bound to Chicago
Dalhousie	Propeller	St. Catharines	383	Kingston to Hamilton
Enterprise	do	do	600	Port Dalhousie to Kingston
Edward	Barque	Maitland		
Elliot	Barge	American	300	Saginaw to Buffalo
Exchange	Schooner	Montreal		
E. W. Rothburn	do	Millpoint	264	Toronto to Oswego
Fenton	do	Wallaceburg	200	Cleyton Height to Dresden
Forester	Barge	American	350	Saginaw to Buffalo
General Grant	do	Saginaw		Detroit to Cleveland
Hamlet	Schooner	American	162	Chicago to Maskegon
Hercules	do	Hamilton	222	Kingston to Hamilton
Isabella	Tug	Barrie		Oreilia to Athol
Indian	Brigantine	St. Catharines	366	Hamilton to Montreal
Jessie Scarth	Barque	Toronto	400	Chicago to Prescott
Jenny Mullin	Schooner	Chicago		
James Scott	do	Canadian	60	Port Maitland to Port Stanley
John A. Macdonald	do	Toronto	326	Oswego to Toronto
J. C. Woodruff	do	St. Catharines	337	do do
John Ray	do	Hamilton	255	do do
Kingston	Steamer	Kingston	204	Brockville to Toronto
Lake Michigan	Propeller	Hamilton		
Maggie	Schooner	Montreal	160	Oswego to Hamilton
Mediator	do	Oswego		
Mary R. Robinson	Steamer	Chatham	247	Chicago to Collingwood
Martin	Barge	Kingston		
Milder	Scow	American	45	Toledo to Pelée Island
Medbury	Schooner	do	226	Kingston to Chicago
Mountaineer	do	Goderich	50	Collingwood to Owen Sound
Mary Ward	Propeller	Wallaceburg	236	Montreal to Collingwood
Murray H. P.	Schooner	Oakville	214	Toledo to Kingston
Nina	Propeller	St. Catharines		Kingston to Toledo
N. B. Rothbern	Schooner	Millpoint	188	Oswego to Toronto
North State	do	Chicago	214	Bearcreek to Cleveland
New Dominion	do	Port Rowan	253	Port Elgin to Montreal
Oddfellow	do	Toronto	83	Port Hope to Oswego
Orion	do	Pictou	240	Cleveland to Kingston
Olive Branch	do	do	171	Toronto to Oswego
Prince of Wales	Barque	St. Catharines	407	Oswego to Toronto
Prince Alfred	Schooner	American	296	Erie to Chicago
Richardson	do	Kingston	163	From Toronto
Russia	Steamer	Chicago	1540	Chicago to Buffalo
Rapid	Schooner	Montreal	261	Pigeon Bay to Buffalo
Star of the North	do	Chicago		
St. Helen	Steamer	Montreal	79	Belleville to Montreal
Saginaw	Barge	American	420	Buffalo to Bay City

No. 29.

Inland Waters of the Dominion, from 1st January, 1872, to 1st January, 1873.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of lives lost.	Amount of loss, and remarks.
Aug. 14.	Grenadier Island, L. O.	Stranded			
	3 miles East of Oswego	do	Stress of weather	None	Partial, \$3,000
	12 miles East of Toronto	do	Fog	do	do 2,200
June 22.	Byng Inlet	do	Stranded	do	do 378
Sept. 23.	Bruce Mines	do	do	do	do 533
Oct. 14.	Colchester Reef	do	do	do	Total, 8,293
Nov. 30.	Near Toronto	Loss of sails, &c	Stress of weather	do	Partial, 150
Oct. 27.	Galop Rapid, Riv. St. Lawrence	Stranded	do do	do	do
June	Toronto Point	do	Fog	do	do 500
Nov. 29.	Cleopatra Island, Lake Superior	do	do	do	do
June 15.	Napadean River	do	Not known	do	do 1,562
Sept. 29.	Manitou Island	Waterlogged			
do 27.	40 miles from Genesee	Burnt	Accidental	None	Total, 35,000
May 23.	Off South Bay Point	Stranded	Fog	do	Partial, 1,000
do 2.	Hunton's Point				
Sept. 18.	19 miles from Port Burwell, N. E. by E.	Foundered	Unseaworthy	None	Total, 8,250
do 30.	7 miles north of Goderich	Stranded	Stress of weather	do	Partial
Nov.	Near Snake Island	do	do do	do	do 300
Sept. 29.	Long Point, Lake Erie	do	do do	do	do 1,100
do 18.	19 miles from Port Burwell, N. E. by E.	Foundered	Unseaworthy	do	Total, 14,950
Oct. 26.	Off Point Pelée	Stranded	Error of judgment	do	do 2,000
do 15.	Off Grandhaven	Collision	Stress of weather	do	Partial, 4,200
Nov. 6.	Four Mile Point	do	Not known	do	do 700
Sept. 2.	Near Oreillia	Burnt	Accidental	do	do 6,000
April 30.	Near Brockville	Stranded	Stress of weather	do	do 100
Nov. 11.	Near Wolf L., Riv. St. Lawrence	do	Rock in channel	do	do 691
May 7.	Welland Canal	Collision		do	do
Sept. 29.	Near Burwell Harbor	Stranded	Stress of weather	do	do 1,300
Nov. 17.	2 miles east of Salt Point	Foundered	Sprung a leak	do	Total, 4,700
do	Near Toronto	Stranded	Not known	do	Partial, 2,000
do 25.	Lumber Island	do	Stress of weather	do	do 1,000
June 11.	Grenadier Island	Burnt		2	Total, 75,000
July	Gananoque Shoal	Stranded	Stress of weather	None	Partial
May 19.	Marigold's Point	do	do do	do	do 710
do 7.	Welland Canal	Collision		do	do
July 30.	W.N.W. 7 miles from Michigan	Burnt	Accidental	do	Total, 50,000
Aug.	Alexandria Bay	Collision		do	Partial
Sept. 29.	Fish Point, Lake Erie	Stranded	Stress of weather	do	Total, 500
Nov. 6.	Four Mile Point	Collision		do	do 9,700
Oct. 21.	Near Big Bay	Stranded	Stress of weather	do	do 300
Nov. 24.	Nottawasaga Light House	do	Error of judgment	8	Partial, 13,000
Sept. 18.	30 miles below Niagara, L. O.	Loss of spars &c	Stress of weather	None	do 1,650
Oct.	Near Kingston	Burnt		do	Total, 47,000
Nov.	Near Toronto	Stranded		do	Partial, 500
May 9.	Little Ground	do	Error of judgment	do	do 2,000
do 22.	Snake Island, near Kingston	do	Stress of weather	do	do 272
Aug. 25.	20 miles off Long Point		do do	do	do
do 31.	Long Point	Foundered	Sprung a leak	do	Total, 11,000
Nov.	Near Toronto	Stranded	Stress of weather		Partial, 200
Sept. 1.	6 miles below Port Dalhousie	do	Stress of weather	None	do 4,000
Nov. 20.	Point Pelée	do	Fog	do	do 2,375
Aug. 31.	Presqu' Isle				
Dec. 6.	South Bar Point	Stranded		None	Total, 30,000
Sept. 28.	Near Point Pelée	Capsized	Stress of weather	7	do 8,000
May 18.	Point Pelée	do	do do	None	Partial
do 2.	Cedar Rapids	Stranded	Breaking rudder chain	do	Total, 18,000
Sept. 29.	Near Burwell Harbor	do	Stress of weather	do	Partial, 2,000

STATEMENT of Wrecks and Casualties that have happened on the Lakes and
1873.—

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from, and where bound to.
S. A. Marsh.....	Barque.....	Port Hope	340	Oswego to Toronto
Sea Bird	Schooner	Kingston	155	Kingston Bay to Cape Vincent.....
Silver Spray.....	Steamer....	Chatham	140	Collingwood to Owen Sound.....
Sweepstakes.. ..	Schooner	Wellington Square.....	209	Kingston to Toledo
Whales	Steamer .....	.....	.....	.....
Wabamik	Schooner	Collingwood	69	Collins' Inlet to Collingwood....
William Howe.....	Barque.....	Ontario .....	.....	.....
William John	Schooner	Montreal	100	Trenton to Oswego
William John	do	do	100	do do
William Elgin.....	do	Millpoint	161	Toronto to Oswego
Woodduck.....	do	Oakville	90	Oswego to Brockville
York.....	Steamer....	Montreal	165	Hamilton to Montreal

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st January, 1873.

Inland Waters of the Dominion, from 1st January, 1872, to 1st January,
Continued.

Date of Casualty.	Place where casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of lives lost.	Amount of loss, and remarks.
Nov. 27..	Nelly's Bay	Stranded	Stress of weather	None	Partial, \$1,000
do 30..	Wolf Island	do	do	do	do 5,000
Oct. 30..	Near Thornburn	Breaking of walking beam and cylinder head. Fault of the engineer.	do	do	do 3,000
Sept. 29..	4 mile S. E. of Rondo Harbor.	Stranded	Stress of weather	do	do 1,800
May 9..	Mouth of Muskoka River	do	do	do	do 400
Aug. 30..	Collingwood Harbor	do	Stress of weather	None	do 400
Sept. 1..	6 miles from Port Dalhousie ..	do	Scuttled	do	do 400
May 2..	Bay of Quinté	do	do	None	Total, .. 600
Nov.	10 miles from Oswego	Foundered	Spring a leak ..	do	do 4,900
do 27..	Near Locket's Harbor	Stranded	Stress of weather	do	Partial, 12,950
Oct.	East of Oswego	do	do	do	Total, 3,600
Nov. 25..	Near South Bay Strait	do	do	do	Partial, 8,000

WM. SMITH,
Deputy of Minister of Marine and Fisheries.

APPENDIX No. 30.

STATEMENT of Expenditure on Account of Investigations relating to Wrecks during the Fiscal Year ended 30th June, 1872.

		\$ cts.	\$ cts.
G. Collins	Casualty Returns, &c.....	18 50	
J. D. Armstrong	Allowance as Reporter of Wrecks from 1st July 1871, to 30th April, 1872.....	200 00	
J. Mitchell.....	Expenses and disbursements for services in connection with investigation into Wrecks, and Casualties	333 00	
		215 00	
E. D. Tremain	Reporting Wrecks.....	55 50	
J. Barber	do do	28 00	
J. Ross	Casualty Returns	4 00	
A. Harvey	Expenses of collecting information re Wrecks..	20 00	
			\$874 00

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, 1st January, 1873.

APPENDIX No. 31.

STATEMENT of Expenditure on Account of Rewards for Saving Life, Purchase of Life-boats, &c., for fiscal year ended 30th June, 1872.

		\$ cts.	\$ cts.
O. R. Ingersoll	Metallic Life-boat.....	315 00	
Board of Trade, England.....	Rescue of Crew of "Afton".....	42 00	
do do	do do "Antecello".....	100 00	
do do	To reward certain Swedish fisherman for rescuing crew of "Bluebird".....	100 00	
Capt. Craig.....	Rescuing Crew of "St. Mary".....	150 00	
G. Collins	Life-boat	410 00	
Baker & Shannon ...	Waggon Truck for Life-boat.....	67 50	
H. W. Johnston	To reward certain persons for rescuing crew of "Breamish".....	114 00	
J. Leslie..	Invoice of gold watches, binocular glasses, &c., for distribution as rewards for saving life..	985 82	
Receiver General	Unexpended balance deposited to credit of Receiver General	214 18	
			\$2,498 50

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, 1st January, 1873.

APPENDIX No. 32.

STATEMENT of the Trips made by the Steamships of the Quebec and Gulf Ports Steamship Company between Quebec and Pictou, calling at intermediate ports, from the 29th April till the 27th July, under their agreement with the Government of the Dominion of Canada; with the time of arrival and departure at Quebec and Pictou.

Name of Steamer.	No. of Trip.	Date of Departure from Quebec.	Date of Arrival at Pictou.	Date of Departure from Pictou.	Date of Arrival at Quebec.
S.S. Gaspé	1	April 29, 3.15 p.m.	May 10, 8.0 a.m.	May 11, 12 noon.	May 15, 11.30 p.m.
S.S. Secret	1	May 7, 3.0 p.m.	May 12, 6.0 p.m.	May 14, 7.0 a.m.	May 20, 4.40 a.m.
S.S. Secret	2	May 21, 3.0 p.m.	May 26, 4.45 a.m.	May 28, 7.0 a.m.	June 1, 8.0 a.m.
S.S. Gaspé	2	May 28, 2.0 p.m.	June 3, 6.0 a.m.	June 4, 7.0 a.m.	June 9, 7.0 a.m.
S.S. Secret	3	June 4, 2.30 p.m.	June 8, 12 midn't	June 11, 7.0 a.m.	June 15, 2.0 p.m.
S.S. Miramichi	1	June 11, 5.0 p.m.	June 17, 2.0 a.m.	June 18, 7.0 a.m.	June 23, 10.30 a.m.
S.S. Secret	4	June 18, 2.30 p.m.	June 22, 2.30 p.m.	June 25, 7.0 a.m.	June 29, 8.0 a.m.
S.S. Miramichi	2	June 25, 2.45 p.m.	June 30, 7.0 a.m.	July 2, 7.0 a.m.	July 6, 11.30 a.m.
S.S. Secret	5	July 2, 2.0 p.m.	July 7, 1.15 a.m.	July 9, 7.0 a.m.	July 13, 8.30 a.m.
S.S. Miramichi	3	July 9, 3.15 p.m.	July 14, 5.0 a.m.	July 16, 8.30 a.m.	July 20, 5.0 p.m.
S.S. Secret	6	July 16, 2.15 p.m.	July 21, 4.15 a.m.	July 23, 7.0 a.m.	July 27, 9.30 a.m.

REMARKS.

S.S. *Gaspé*, trip No. 1.—May 4th, arrived at Portage Island at 6.30 a.m., but could not proceed up the Miramichi on account of the rudder being broken by the ice. The mails could not be landed. Left at noon for Shediac. Anchored off Shediac at 9 p.m. with intention of sending mails ashore by boat. It afterwards was too thick to do so. Proceeded for Pictou. Had to turn back at Cape Tormentine, being unable to get through the ice. Arrived at Shediac at 12.30 p.m., 6th May, and landed the Chatham and Newcastle mails there, to be forwarded to their destination. Left Shediac at 7 a.m., 8th May, got fast in the ice, and did not reach Pictou till 10th May at 8 a.m.

S.S. *Secret*, trip No. 1.—Detained at Paspebiac on the night of the 9th May by heavy snow storm. Inwards: Left Pictou on the 14th at 7 a.m., but had to put back on account of ice in the Straits of Northumberland, which rendered it impossible to proceed until 16th May.

S.S. *Secret* trip No. 2.—Detained twelve hours by fog between Dalhousie and Shediac.

S.S. *Gaspé*, trip No. 2.—Outward: Detained ten hours by thick weather in the Bay of Chaleur. Inward: Detained twenty hours by thick weather in the Miramichi.

S.S. *Secret*, trip No. 3.—Detained five hours by fog between Father Point and Quebec.

S.S. *Miramichi*, trip No. 1.—At 11.45 p.m., June 20th, broke one arm of wheel at Cape Gaspé, had to turn back to Gaspé Basin for repairs, and did not leave till 6.15 p.m. on 21st June.

S.S. *Secret*, trip No. 6.—Detained ten hours by fog between Quebec and Father Point.

I, William Moore, Manager of the Quebec and Gulf Ports Steamship Company, make oath and say, that to the best of my knowledge and belief the foregoing statement and account attached are correct in every particular.

W. MOORE.

Sworn before me at Quebec, this second day of August, One thousand eight hundred and seventy-two.

P. GARNAU, J.P.

STATEMENT of the trips made by the Steamships of the Quebec and Gulf Ports Steamship Company, between Quebec and Pictou, calling at intermediate Ports from the 23rd July, till the 27th November, under their agreement with the Government of the Dominion of Canada; with the time of arrival and departure at Quebec and Pictou.

Name of Steamers.	No. of Trips.	Date of Departure from Quebec.	Date of Arrival at Pictou.	Date of Departure from Pictou.	Date of Arrival at Quebec.
Miramichi..	4	July 23, 2.15 p.m..	July 27, 5.0 p.m..	July 30, 7.15 a.m..	Aug. 3, 3.0 p.m.
Secret.....	7	do 30, 2.15 p.m..	Aug. 3, 1.10 p.m..	Aug. 6, 7.0 a.m..	do 10, 2.0 p.m.
Miramichi..	5	Aug. 6, 2.30 p.m..	do 12, 5.0 a.m..	do 13, 7.15 a.m..	do 17, 8.0 a.m.
Secret.....	8	do 13, 2.15 p.m..	do 17, 3.0 p.m..	do 20, 7.0 a.m..	do 24, 11.0 a.m.
Miramichi..	6	do 20, 2.15 p.m..	do 24, 7.0 p.m..	do 27, 7.15 a.m..	Sept. 1, 4.0 a.m.
Secret.....	9	do 27, 2.15 p.m..	do 31, 8.15 p.m..	Sept. 3, 7.0 a.m..	do 7, 3.0 p.m.
Miramichi..	7	Sept. 3, 2.15 p.m..	Sept. 8, 5.30 a.m..	do 10, 7.30 a.m..	do 14, 6.15 p.m.
Secret.....	10	do 10, 2.30 p.m..	do 14, 5.40 p.m..	do 17, 7.0 a.m..	do 21, 1.0 p.m.
Miramichi..	8	do 17, 2.20 p.m..	do 22, 4.0 p.m..	do 24, 7.15 a.m..	do 28, 10.0 p.m.
Secret.....	11	do 24, 2.0 p.m..	do 29, 5.0 a.m..	Oct. 1, 7.0 a.m..	Oct. 5, 11.0 p.m.
Miramichi..	9	Oct. 1, 2.30 p.m..	Oct. 6, 6.0 p.m..	do 8, 8.0 a.m..	do 13, 5.30 p.m.
Secret.....	12	do 8, 3.20 p.m..	do 13, 1.30 a.m..	do 15, 7.0 a.m..	do 20, 5.0 p.m.
Miramichi..	10	do 15, 6.0 p.m..	do 21, 5.0 a.m..	do 22, 8.15 a.m..	do 27, 7.30 p.m.
Secret.....	13	do 22, 2.0 p.m..	do 27, 7.30 a.m..	do 29, 7.0 a.m..	Nov. 3, 7.0 a.m.
Miramichi..	11	do 29, 3.0 p.m..	Nov. 5, 6.30 p.m..	Nov. 8, 3.30 p.m..	do 15, 10.30 a.m.
Secret.....	14	Nov. 5, 2.35 p.m..	do 12, 1.0 a.m..	do 12, 11.0 p.m..	do 18, 1.0 p.m.
Georgia.....	9	do 12, 8.0 p.m..	do 17, 6.0 p.m..	do 21, 3.30 p.m..	do 27, 11.30 a.m.

REMARKS.

"Miramichi," Trip No. 5.—August 6th, 11 p.m., anchored off St. Denis, every thick fog. August 7th, 5 a.m., fog still thick, anchored off Pilgrims. At 10 a.m., fog lifting—up anchor and proceeded very slow. At 11 a.m., weather clearing up, full speed. At 2 p.m., going half speed, thick fog. At 10 a.m., anchored off Father Point, thick fog almost all the way to Chatham.

"Miramichi," Trip No. 6.—August 31st, anchored off Father Point, weather too stormy to receive Mails and Passengers.

"Secret" Trip No. 11.—Detained 8 hours at Chatham, on the night of the 27th September, by fog and rain.

"Miramichi," Trip No. 11.—November 1st, 10 a.m., anchored at Paspebiac, blowing a gale from E.N.E.; at 11 p.m., November 2nd, proceeded for Chatham. On upward trip encountered strong head wind all the way.

"Georgia," Trip No. 9.—November 23rd, at 1 a.m., came to anchor, at 3 a.m., wind easterly and snowing; at 8 a.m., up anchor, and steamed to Chatham. At 1.45 p.m., made fast along side the wharf at Newcastle; looking stormy; made the boat well fast for the night, snowing hard with strong easterly wind. November 24th, at 6.30 a.m., left Newcastle, at 7.10 a.m., came to anchor off Chatham, very thick fog; at 9 a.m. fog cleared off, up anchor and steamed away. Monday, November 25th, at 1.30 a.m., came to anchor in Gaspé, at 8 a.m.; left Gaspé at 4.45 p.m.; passed Magdalen River, blowing strong from S.E., and snowing. At 5 p.m., snowing heavy, half speed; at 7 p.m. dead slow, hauled off E., became very dark and thick, snowing heavily; at 9.45 p.m., clear. Tuesday, 26th November, blowing fresh from westward at 2 a.m., blowing a gale at 4 a.m., wind increased to a hurricane with heavy head sea, ship rolling and pitching heavily; shipped a sea carrying away forward companion, binnacle head, pump, and doing other damage; the cargo breaking loose, was obliged to throw part of it overboard to prevent it doing other damage; shipping large quantities of water. Attempted to keep the ship off before the wind, set fore stay-sail, jibs being down away—but would not keep off, was obliged to keep her up to the sea again. At 8 a.m., sea more regular, blowing very hard, ship rolling and pitching heavily and shipping water. Noon, more moderate and sea going down, sighted north shore at 4 p.m., full speed steering W. by N.; at 7.30 off Point des Monts light. Being forced by the gale to the North shore was unable to call at Father Point.

I, William Moore, Manager of the Quebec and Gulf Ports S.S. Co., make oath and say, that to the best of my knowledge and belief, the foregoing statements are correct in every particular.

W. MOORE.

Sworn before me at Quebec this twenty ninth day of November, in the year of Our Lord one thousand eight hundred and seventy-two.

J. PORTER, J.P.,

APPENDIX No. 33.

LIST of Persons to whom Rewards have been granted by the Government of the Dominion of Canada down to 30th June, 1872, for gallant and humane services rendered in saving life from shipwrecked Canadian vessels.

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards Granted.
Capt. D. F. Morrison, of the Brigantine <i>Mary Grace</i> , of Parraboro, N.S., & members of crew.	Capt. Raymond and crew of the barque <i>S. D. Evergreen</i> , of Yarmouth, N.S., were, while their vessel was in a sinking condition, and a high sea running at the time, rescued by Capt. Morrison and crew, by whose exertions their lives were saved.	12th Feb., 1868.	Binocular Glass; value, £9 10s. 0d. sterling to captain, \$50 divided equally amongst the rescuing members of crew.
Mr. Wm. Young, of Ketch Harbor, near Halifax.	While the brigantine <i>Alma Jane</i> , of Shelburne, N.S., was in a sinking condition at the entrance to Ketch Harbor, at which place she was ultimately lost, Mr. Young observed the wreck at daybreak, when he procured assistance, getting ropes thrown to the crew under great difficulties, and finally succeeded in rescuing the whole of the crew, with the exception of the mate who was frozen to death, and two of the men who were drowned.	27th Feb., 1868.	\$100.
Capt. Colfeet, Master of the Barque <i>Providence</i> , of Nova Scotia.	The sloop <i>Industry</i> , of Nova Scotia, was found by the <i>Providence</i> in a disabled state, and the crew, 7 in number, were rescued from the wreck and received by Capt. Colfeet on board his vessel, and were by him treated with great kindness until their arrival in London. Capt. Colfeet's vessel was much damaged by coming in contact with the wrecked vessel during the rescue; his long-boat was lost, and a good deal of expense was incurred by him in supplying the shipwrecked crew with necessities.	December, 1868.	Gold Watch; value, £20 sterling, to captain.
Mr. Abel Colfeet, Mate of the Barque <i>Providence</i> , of Nova Scotia.	Mr. Colfeet is a brother of the above-named Capt. Colfeet, and, on the occasion of the rescue, displayed a good deal of bravery in assisting the shipwrecked persons to reach the barque. The sea at the time was running high, and, during the few minutes that the barque was alongside the sloop, Mr. Colfeet, the mate, crossed the main-yard of the <i>Providence</i> , descended by the rigging to the deck of the sloop, assisted the crew in leaving the wreck, and disentangled the rigging of the two vessels.	December, 1868.	Binocular Glass; value, £9 10s.
Capt. Williams, of the Steamer <i>Wisconsin</i> of Liverpool, England; Mr. Charles McDermott, Second Officer; and James Lamb, Thomas McEvoy, Josiah Manchester, D. Owen, John E. Lewis, and John Rees, seamen.	The ship <i>J. S. DeWolf</i> , of St. John, N.B., while on a voyage from Liverpool to Philadelphia, about 1,000 miles from Cape Clear, had her main-mast carried away, her decks entirely broken in, and the life-boat broken and rendered useless. The master of the <i>Wisconsin</i> seeing a sailing ship in the distance with the signal of distress raised, changed his course and made for the sinking ship. Mr. McDermott, the Second Officer, on calling for volunteers to man the lifeboat, was promptly answered, when he assumed command, and at great risk succeeded in rescuing the crew, 19 in all, who were conveyed on board the <i>Wisconsin</i> .	5th Oct., 1870.	Thanks of the Government to captain. A Sextant; value, £16 18s. 9d., to second officer. \$80 divided equally amongst the six seamen.
Capt. Louis Dugal, of the Schooner <i>Glen</i> , of Isle of Orleans.	The schooner <i>Mathilda</i> , of St. Paul's Bay, Province of Quebec, after leaving Miramichi, encountered a violent tempest, by which her sails, rigging and masts were carried away, and she was driven helpless at the mercy of the winds and waves. After drifting three days in this state, she was observed by the master of the <i>Glen</i> , who, notwithstanding that a strong wind was blowing, lowered his boat, and, after great exertions, succeeded in rescuing the captain and crew of the wrecked vessel.	5th Dec., 1870.	Binocular Glass; value, \$40.

List of Persons to whom Rewards have been granted, &c.—Continued.

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards Granted.
Captain of French barque <i>Nes Mexico</i>	For receiving on board his vessel, from their boats, the crew of the <i>Three Sisters</i> , which had become disabled.	8th Oct., 1870.	Thanks of the Government.
Mr. Thomas Cartier, K'p'r of R. Thames Lighthouse.	For saving the lives of 13 persons during a period of about 13 years.	Dec., 1857 April, 1858 Oct., 1865 Dec., 1869 Feb., 1871	Gold Watch; value, \$75.
Capt. George Collins, Light Keeper, Nottawaaga Island.	For bringing the barque <i>Arabia</i> from a perilous position among the rocks near Nottawaaga Island to Collingwood Harbour; for saving schooner <i>Tom Sines</i> from destruction, and bringing her from the rocks to Collingwood Harbor; for rescuing a gentleman named Lewis, who had been blown out to sea, and found in a state of exhaustion; and for saving the crew of the schooner <i>Ariel</i> , which ran on Lunan's Shoal, and shortly afterwards went to pieces.	Oct., 1860 Nov., 1865 Aug., 1870 Nov., 1870	Gold Watch; value, \$75.
Master of the <i>George Cornwall</i> , of New York; Richard H. Hooper, Ch'f Mate; and 4 men.	The <i>Export</i> , of Annapolis, while on a voyage from Jamaica to New York, foundered through stress of weather; and the master and crew, 7 in all, were taken from the wreck at at very considerable risk by the chief mate and four seamen of the <i>George Cornwall</i> , and great humanity was displayed by the captain in his treatment of the rescued crew.	6th Novr., 1870.	Thanks of Government to captain. Aneroid Barometer; value, \$50, to chief mate. \$30 to be divided equally amongst the four men.
Capt. Coombs, of the American brig <i>Ellen Bernard</i> , of Boston, Mass.	The <i>Morning Star</i> , of Miramichi, while on a voyage from Richibucto to Boston was wrecked, when the whole crew perished, with the exception of a boy, who, after being 9 days on the wreck, (five days without food) was rescued by Capt. Coombs, through whose unremitting kindness and attention the boy was restored from a dying condition to comparatively good health.	.....	Marine Glass; value, \$30.
Capt. Orsato, of the brig <i>Canada</i> , of Jersey. Men in boat.	The <i>Ida Cutten</i> , of St. John, N.B., while on a voyage from St. John, N.B., to Matanzas, met with a succession of gales which dismantled the vessel, washed overboard all the boats, and caused her to become water-logged. While in this perilous condition, the <i>Canada</i> hove in sight, and, although the weather was very rough at the time, the master sent his boat and rescued the crew of the <i>Ida Cutten</i> , and carried them to Queenstown.	.....	Aneroid Barometer; value, \$40, to captain. \$60 to be divided equally amongst men in boat.
Master of ship <i>Horatio Harris</i> , of Boston; Wm. S. Samuels, Second Officer; Jas. Norton, Third Officer; and 2 seamen. 4 men from Cutler in a schooner.	The <i>Antecello</i> , of Halifax, N.S., while on a voyage to Aspinwall, met with violent gales, and when in a sinking condition, was fallen in with by the <i>Horatio Harris</i> , which vessel remained some 25 hours near her waiting an opportunity to take off the crew; this was at last effected by the second and third officers and two seamen at great risk to their lives. The <i>Ayton</i> , while on a voyage from Sackville to Barbadoes, was lost on Machias Seal Islands. The crew managed to get on shore on the island, and, after suffering much from cold and exposure, arrived at the lighthouse. Heavy guns were fired from the signal station, and signals of distress made to the mainland, which were observed at Cutler, a distance of 20 miles from the island, and though the distance was so great and the weather very stormy, a party of four men set out in a small schooner, and succeeded in landing on the island, and in taking off all the crew, with the exception of the captain, who was too ill to be moved.	1st Novr., 1870. 9th Jan'y., 1871.	Thanks of Government to master. Marine Glass, val. \$30, to 2nd officer. Marine Glass, val. \$30, to 3rd officer. \$20 each of 2 seamen. \$100 to be divided equally amongst them.

List of Persons to whom Rewards have been granted, &c.—*Continued.*

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards Granted.
Master of the <i>Alfred Richards</i> .	The <i>Minnie Arnold</i> , while on a voyage from Port Medway to St. Kitts, was totally dismasted, and the decks swept by a hurricane, on the 15th of February; that, after continuing in this condition for a month, the vessel was fallen in with by the <i>Alfred Richards</i> , on the 15th March, and the crew with all their effects taken by her to Barbadoes.	15th Mar., 1871.	Thanks of the Government.
Capt. E. Ferrer, of the Spanish ship <i>Clotilde</i> , of Barcelona.	The <i>Callie Allie</i> , of St. John, N.B., while on a voyage from Rosario, in the Argentine Republic, to Liverpool, foundered on the 9th January, when the master and crew, 8 in number, took to their boat, and were picked up by the <i>Clotilde</i> , of Barcelona, after being 5 days without food, and exposed to the mercy of the winds and waves. The master of the <i>Clotilde</i> , finding that his stock of provisions was insufficient for the increased number, resolved to make for Pernambuco, and, while making for that port, fell in with the <i>Hyack</i> , of St. John, N.B., to which last-named vessel two of the <i>Callie Allie</i> 's crew were transferred and conveyed to Barbadoes.	14th Jan., 1871.	Gold Watch; value, \$100.
Capt. C. Drummond, of the barque <i>Christel</i> , & boat's crew...	The <i>Valiant</i> , of Halifax, N.S., while on a voyage from Halifax to Jamaica, was, in lat. 39° 27' long. 62° 12', completely destroyed by a storm, both masts being carried away; and while in this condition, the rescue of the crew was effected at considerable risk by Capt. Drummond, of the barque <i>Christel</i> , who boarded the vessel with his own boat while a strong wind was blowing with a high sea, and succeeded in saving the crew, 7 in number, and, after treating them with great kindness for 21 days on board his vessel, conveyed them to Bremen.	1871.	Gold Watch; value, \$80. \$80 divided equally amongst them.
The widow of the late Capt. Craig, of the barque <i>Speedaway</i> .	The schooner <i>St. Mary</i> , of Sandy Cove, Digby Co., N.S., was found by the <i>Speedaway</i> in great distress, and after Capt. Craig taking on board the <i>St. Mary</i> 's crew, he made every effort to keep the vessel afloat, but was finally obliged to abandon her. The crew were cared for by Capt. Craig till 13th September, when an opportunity offered of transferring them to the schooner <i>M. L. B. Aitchak</i> , bound for Boston, which he availed himself of, and placed them on board that vessel with a supply of provisions and clothing. Capt. Craig was drowned three months afterwards at Havana.	3th Sept., 1870.	\$150.
Capt. Ole Olsen, of barq' <i>Saga</i> , of Norway; Mr. Johan Thommasen, Mate and 2 seamen.	The crew were taken from the wreck of the <i>Uher</i> in one of the boats belonging to the <i>Saga</i> , manned by the mate and two seamen, and considerable risk was incurred in so doing.	1871.	Binocular Glass, val \$30, to master. Aneroid; value, \$40 to mate. \$15 to each of two seamen.
Anders Christensen, Anders Petersen, Johan Andersen, Anders Olsen, Anton Brant, Benjamin Johannsen, Nils Anderssen, Otto Hallenborg.	The barque <i>Blue Bird</i> , of Windsor, N.S., while in a dangerous position on a lee shore on the coast of Sweden, was observed by certain fishermen belonging to the village of Grafrerna, who, at the risk of their lives, while it was blowing a storm with a heavy sea, put off to the vessel though 3 miles distant, and succeeded in bringing the captain and crew on shore. The vessel was saved the following day when the weather moderated, and was taken to port.	26th Aug., 1871.	Thanks of Government to salvors, and \$100 to be divided amongst them.

LIST of Persons to whom Rewards have been granted, &c.—*Continued.*

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
Capt. Robert Kirk, of the brigantine <i>New Dominion</i> , of Yarmouth, N.S.	The schooner <i>Ocean Bird</i> , of LaHave, N.S., while on a voyage from LaHave to Boston, was discovered to be on fire on the night of the 1st November, and it being found impossible to get the fire under, the crew were obliged to scuttle the vessel: which, being done after considerable exertion, the fire was extinguished. The crew remained on the wreck without water or provisions and exposed to the force of the sea till the afternoon of the 3rd inst., when they were discovered by Capt. Kirk, of the <i>New Dominion</i> lashed to the rigging. He immediately endeavoured to render assistance, and, after passing the wreck 5 times before he was near enough to help her, succeeded the sixth time, when the wrecked men, being ready with their life lines, jumped into the sea and were pulled on board. Capt. Kirk treated the rescued men with great kindness, and kept them for 8 days on board his vessel till her arrival at Gloucester, Mass.	3rd Novr., 1871.	Gold Watch; value, \$100.
Capt. F. W. Hill, of the U.S. ship <i>John Patten</i> .	The brig <i>John Jaffray</i> , of Liverpool, N.S., while on a voyage from Barbadoes to St. John's, Newfoundland, was overtaken by a hurricane on the 10th October last and dismantled, the rudder being also partially parted from the stern. The vessel thus becoming unmanageable, the crew were left at the mercy of the waves, and remained in this helpless condition for 23 days, when they were perceived by the master of the ship <i>John Patten</i> , who boarded the wrecked vessel personally and rescued the crew with his boats, in which they were conveyed to his own vessel, remaining on board 8 days, when they were landed at Savannah.	2nd Nov., 1871.	Gold Watch; value, \$120.
Capt. Albert C. Burrows, of the U. S. barque <i>Cremona</i> , of New York.	The <i>W. H. Moody</i> , of Yarmouth, N.S., while on a voyage from Liverpool to Philadelphia, was completely disabled by a hurricane on the 5th March last, and, after lying in this condition for 3 days, was sighted by the <i>Cremona</i> , the Captain of which vessel, on being signalled for assistance, sent his boat, and though a heavy sea was running at the time, which swamped one of the boats of the <i>W. H. Moody</i> , succeeded after 8 hours hard work in rescuing the crew, 13 in all, and brought them to Liverpool.	8th Mar., 1871.	Binocular Glass; value, \$30, to Captain.
Capt. of U. S. schooner <i>Daylight</i> .	The schooner <i>Albatros</i> , of N.S., while on a voyage from Nevis, West Indies, to Yarmouth, was disabled by a gale, and the master and crew were taken off the wreck by the American schooner <i>Daylight</i> and landed at Barbadoes.	Nov., 1871	Thanks of Government to Captain.
Damas Babin, of St. Jean, Port Joli.	For assisting at the rescue of the crew of the <i>Alma</i> , one of the vessels caught in the ice in the River St. Lawrence. The crew had abandoned their vessel at a distance of 2 miles from the beach, and were endeavouring to make their way over the floating ice. While in this perilous position they were rescued by Babin and others, who came from shore to their assistance. Babin also displayed great energy and some daring in endeavouring to save the crew of the barque <i>Viola</i> .	30th & 31st Novem., 1871.	Binocular Glass; value \$30, to Babin.

LIST of Persons to whom Rewards have been granted, &c.—Continued.

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
Charles Hutt, Michael Edwards, Albert Osborne, Benjamin Fulker, C. Fulker, and James Heneberry.	The barque <i>Breamish</i> , during a terrific gale, was thrown on her beam ends about 600 yards from Devil's Island; and that while in this position, she was sighted by Mr. Hutt, Mr. Fulker, and others, who, at the cry of the crew who were lashed to the vessel's rail, put off to their assistance, and, after great exertion, succeeded in rescuing all, 11 in number, from a watery grave.	14th Dec., 1871.	\$114 to be divided among the 6 rescuers.
Capt. During, of U. S. steamer <i>Tilley</i> .	The <i>Thames</i> , of Halifax, N.S., while on a voyage from Nassau to Hampton River, was so injured by a gale that the crew were obliged to abandon the vessel in a sinking condition, and were picked up by the master of the steamer <i>Tilley</i> , who treated them with great liberality and kindness, and landed them at New York.	27th Jan., 1872.	Binocular Glass; value, \$30.
Capt. D. Thomas, of ship <i>William Jones</i> , of Newport.	The <i>British Lion</i> , of Windsor, N.S., while on a voyage from Antwerp to Montreal, was run into by the ship <i>Clifford</i> , of Liverpool, and injured to such an extent that she shortly after filled and sank. The captain and crew, 19 in number, were rescued by means of one of the boats belonging to the vessel, and a boat belonging to the barque <i>William Jones</i> , which came to their assistance, and received the crew on board, and landed them at Falmouth on the morning of the day following the collision.	7th April, 1871.	Binocular Glass; value \$30, to Captain.
Capt. A. Reinhold Neiglsik, of ship <i>William and Anna</i> , of Gottenburg.	The schooner <i>Bachelor</i> , of St. Andrews, N.B., while on a voyage from Cardenas to New York, became water-logged, and being considerably damaged, the master and crew, consisting of 7 men, took refuge on board the Swedish ship <i>William and Anna</i> , which vessel landed them at Havre.	5th Mar., 1872.	Thanks of Government to Captain.
Capt. T. C. Spencer, of the U. S. steamer <i>Nancemond</i> .	The British ship, <i>Wimbledon</i> , chiefly owned in Quebec, while proceeding to sea from Savannah with a large cargo, became stranded on a sand-bar in Doby Harbour, and lay for some time in a critical position till rescued by the U. S. steamer <i>Nancemond</i> , the officers and crew of which displayed much energy, which was not relaxed until the <i>Wimbledon</i> was hauled off the bar and taken to sea.	.....	Thanks of Government to Captain.
Capt. Joseph Bertrand, of <i>Ville de Blain</i> , of Nantes.	The brigantine <i>Alra</i> , of St. John, N.B., while on a voyage from that port to Island of Cuba, was dismantled. On the 27th February last, sprang a leak, when, becoming water-logged, was finally abandoned on 27th March following. The crew having left their vessel in their own boat, were picked up by the French brig <i>Ville de Blain</i> , of Nantes. The master, Capt. Joseph Bertrand, treated them with great kindness, and landed them at Bordeaux.	27th Mar., 1872.	Thanks of Government to Captain.
Capt. Ingraham, of the schooner <i>Gertrude</i> , of Nassau.	The schooner <i>E. K. Brown</i> , of Guysboro, N.S., while on a voyage from St. Andrews to Baltimore, having struck against the Dog Rocks, on the southern Florida coast, went to pieces, obliging the crew to scramble upon the rocks, where, after remaining part of two days and one night, they were found and taken off by Capt. Ingraham, who performed in their rescue a task difficult and dangerous.	15th Dec., 1871.	Thanks of Government to Captain.

LIST of Persons to whom Rewards have been granted, &c.—*Concluded.*

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.
Capt. James C. Mills, of the brigantine <i>Mary Grace</i> , of Parrsboro, N.S.	The barque <i>Bidwell</i> , of Yarmouth, N.S., while on a voyage from Philadelphia to Antwerp, was discovered to be in a leaky condition and without a rudder. She was sighted by the <i>Mary Grace</i> , which bore down upon her. The crew of the <i>Bidwell</i> , on the approach of the brigantine, abandoned their vessel in their own boat and obtained refuge in the <i>Mary Grace</i> . On the following night a heavy gale came on, and the <i>Bidwell</i> disappeared.	19th Mar., 1872.	Thanks of Government to Captain.
Capt. Wm. S. Ives, of the U. S. ship <i>Saranac</i> , of Philadelphia; Alexander Robertson, Second Mate; Wm. Wilkinson, Carpenter; three seamen.	The <i>Annie M. Conn</i> , while on a voyage from to , was observed by Capt. Ives to be in a sinking condition, and he immediately bore down his vessel towards her, and sent a boat to her assistance. The sea was very rough at the time, and much difficulty was experienced in the rescue, but this was eventually accomplished without any loss of life.	5th Mar., 1872.	Thanks of Government to Captain. Aneroid; value \$35, to 2nd mate. Binocular Glass; value \$20, to carpenter. \$12 to each of 3 seamen.
Capt. J. H. Nickerson, of the <i>James E. Ward</i> .	The barque <i>Helena</i> , of Shelburne, N.S., while on a voyage from Wilmington to Rotterdam, sprung a leak in lat. 34° 47', long. 74° 20', and the water gained so rapidly that the crew were obliged to abandon the ship, which foundered six hours after. The crew were picked up by the U. S. ship <i>James E. Ward</i> , and landed at the port of New York.	10th Mar., 1872.	Thanks of Government to Captain.

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, 1st January, 1873.

APPENDIX No. 34.

LIST OF PERSONS, subjects of the Dominion of Canada, to whom Rewards have been granted by the British and Foreign Governments, down to 30th June, 1872, for gallant and humane services rendered in saving life from shipwrecked British and Foreign Vessels.

Names of Persons.	Nature of Services rendered.	Dates of Services rendered.	Description of Rewards granted.	Governments granting.
Mr. W. A. Pridgeon, late mate of the ship <i>Bury St. Edmunds</i> , of London, residing at Southwold, Elgin, Ont.	Mr. Pridgeon, with four seamen of the <i>Bury St. Edmunds</i> , having manned the lifeboat of that vessel, rescued the master and crew of the brig <i>Filey</i> , of Shields, which vessel they had fallen in with in lat. 43° 40' north, and long. 12° 10' west. The rescue was accomplished at very great risk, during a fearful gale.	30th Dec., 1869.	Aneroid.....	British Gov't.
Capt. E. C. Roach, master of the barque <i>M. E. Corning</i> , of Yarmouth, Nova Scotia.	The <i>Ondana</i> , of Milford, when in lat. 39° north, 70° west, having been struck by a terrific squall, which knocked the vessel on her beam ends with the lower masts under water, a huge sea at the same time carrying away the deck house, boats, &c., and washing overboard the captain, mate, steward, and cabin boy, who were drowned, the remainder of the crew—three in number, who had lashed themselves to the main rigging—were with the greatest difficulty secured by Capt. Roach, whose vessel bore down upon the <i>M. E. Corning</i> while the latter was in a sinking and helpless condition.	19th Sept., 1871.	Binocular glass..	British Gov't.
Capt. Geo. H. Morris, master of the barque <i>Sarah Crossell</i> , of Yarmouth, Nova Scotia.	For rescuing the shipwrecked crew of the schooner <i>General Banks</i> , of Boston, Mass.	24th Feb., 1872.	Gold watch.....	United States Government.
Capt. David Strum, master of the brig <i>Maggie</i> , of Lunenburg, Nova Scotia.	The barque <i>Thomas Dallett</i> , of Kingston, Jamaica, being in a sinking condition at sea, the <i>Maggie</i> came to her assistance, and after lying by her for 24 hours, Capt. Strum, by much perseverance, at length	7th March, 1872.	Binocular glass..	British Gov't.

Capt. Herman S. Rich, master of the barque <i>Oder</i> , of Pictou, Nova Scotia.	For rescuing the shipwrecked crew of the schooner <i>Zeyla</i> , of Boston, Mass.	succeeded in rescuing the wrecked crew. Previously to the rescue, two vessels had passed within sight of the wreck, but did not attempt to render any assistance, prevented, possibly, by the violent nature of the weather.	of 8th March, 1872.	Gold watch.....	United States Government.
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WM. SMITH,

Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
 OTTAWA, 1st January, 1873.

APPENDIX

LIST OF LIGHTS OF THE DOMINION OF CANADA, UNDER THE

ALL the Lights below Quebec, on the River St. Lawrence, including Point des Monts, and lighted on the 1st April, of each year.

The Lights in the Gulf of St. Lawrence, Straits of Belle Isle, Northumberland Straits, on the Bird Rocks which is kept burning till the 31st December, and the light The Lights in the Bay of Fundy, and on the Southern and Eastern Coasts of Nova The Lights above Quebec, and on the Lakes, are shown during the season of navigation. All bearings are magnetic, and are given from seaward.

ABBREVIATIONS :—F., fixed or steady ; Fl., flashing ; F. and Fl., fixed light, with a white or red flash in D., dioptric, or by

LABRA

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Belle Isle.....	Straits of Belle Isle, extreme S. point of island	51 53 0	55 12 15	One.....	F	.....	28
Amour Point....	S.E. side of Forteau Bay.	51 27 35	56 50 55	One.....	F	.....	18

NEWFOUND

Cape Norman ...	Straits of Belle Isle...	51 38 0	55 53 40	One.....	Rev	Every 2 minutes	20
Point Rich	Straits of Belle Isle.....	50 41 50	57 27 40	One.....	Fl	Every 15 seconds	18
Cape Ray	On W. side of Cape.....	47 37 0	59 18 0	One.....	{ Rev & Fl	Rev. every 2½ m. Fl. every 10 sec.	20

ST. LAWRENCE

St. Paul Island ..	On rock off N.E. point of the island	47 13 56	60 8 20	One.....	F	.....	20
St. Paul Island...	S.W. point of island ...	47 11 20	60 9 36	One.....	Rev	Every minute ..	20
Bird Rocks.....	Magdalen Islands.....	47 50 40	61 8 20	One.....	F	.....	21
Amherst Island..	S. point, Amherst Island	47 13 0	61 58 0	One.....	Rev	Red 30 seconds, White 30 sec.	20
Paspebiac	On the Spit	48 0 54	65 14 20	One.....	F	.....	13
Carleton Point ...	Bay Chaleur	48 5 15	66 7 0	One.....	F	.....	12

No. 35.

CHARGE OF THE DEPARTMENT OF MARINE AND FISHERIES.

Cape Chatte, Seven Islands, and Egg Island, will be extinguished on the 10th December, and Gut of Canso, will be extinguished on 20th December, with the exception of the light on the S. W. point of St. Paul's Island, which is shown all the year round. Scotia, are exhibited all the year round.

addition, preceded and followed by a short eclipse; Rev., revolving; C., catoptric, or by metallic reflectors refracting lenses.

DOR.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Circular tower, clapboarded, white	470	62	1858	D. 1st order	Visible from about N. W. by N., round by South to East. A gun is fired every hour during fog and snow storms. Depot of provisions for shipwrecked mariners. Var. in 1869, 39° 10' W.
Circular tower, white	155	109	1858	D. 2nd order	A gun fired here every hour during fog and snow storms.

LAND.

Hexagonal white tower	138	40	1871	C	Visible from all points of approach seaward.
Hexagonal tower, white ...	130	40	1871	C	It is visible from all points of approach seaward.
Hexagonal tower, white ...	.....	41	1871	C	At a long distance flashes not observed. A fog whistle is in course of construction for this Station.

GULF AND RIVER.

Octagonal, wood, white ...	140	40	1839	D. 3rd order	Obscured between N. by E. $\frac{1}{2}$ E. and E. N. E.
Octagonal, wood, white ...	140	40	1831	D. 3rd order	A Fog Whistle has been erected on the S. side of the Island, S. W. of Atlantic Cove, about $\frac{1}{2}$ a mile from the Humane Establishment, which will be sounded once for five seconds in each minute during thick weather & snow storms.
Hexagonal tower, white ...	140	50	1870	D. 2nd order	Dwelling house also white, 200 feet from tower.
Hexagonal tower, white ...	.....	.....	1871	C	
Square wood tower, white ...	55	54	1870	C ..	Situated near extremity of spit.
Wooden, white	32	28	1872	C	Red Light.

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE GULF

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl; F. & Fl; Rev.; Int.; Alk.	Interval of revolution or flash.	Miles seen in clear weather.
Gaspé Harbor ...	Sandy Beach Point. Light vessel moored off extreme of Spit.....	48 50 45	64 24 30	Two, red 29 ft. & white 35 ft. from deck.	F	.....	.....
Cape Rosier	O'Hara Point, Wharf Basin On Cape	48 51 57	64 12 0	One	F	.....	7
	East End of Anticosti.....	49 6 30	61 42 30	One	F	.....	16
Anticosti Island	S. W. point of Anticosti...	49 23 45	63 35 46	One	Rev	Every minute...	15
	Extreme W. point of Anticosti.....	49 52 30	64 31 40	One ..	F	.....	15
	$\frac{1}{2}$ mile W. from S. point of Anticosti	49 4 30	62 17 30	One	Fl	Flash every 20 sec	14
Cape Magdalen...	On the Cape	49 15 40	65 19 30	One	Rev	Red and white every 4 min.	Red 15. White 20
Egg Island	On the Island, 600 feet from South end.....	49 38 0	67 10 0	One	Rev	Every $1\frac{1}{2}$ minute	15
Cape Chatte.....	N. W. Point of Cape.....	49 5 50	66 45 50	One	Fl	Interval of 30 sec. between each flash	18
Point de Monts...	About $1\frac{1}{2}$ mile N. E. of Point	49 19 35	67 21 55	One	F	.....	15
Father Point, Rimouski	On Point	48 31 25	68 27 40	One	F	.....	10
Bicquette Island...	Near centre of Island	48 26 18	68 53 20	One	Rev	Every 2 minutes	17
Red Island Reef ..	Light vessel N. E. from Red Island, in 10 fathoms of water	48 6 30	69 30 20	One	F	.....	12
Manicouagan Shoal	Light vessel, 4 miles from land, the East Peninsula bearing N. E. and the W. Peninsula bearing W. N. W., moored in 25 fathoms water.....	49 2 0	68 15 0	Two, one 27 ft. & the other 24 ft. from deck	F	.....	12

of the Department of Marine and Fisheries.—Continued.

AND RIVER.—Continued.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Painted red, with "Light Vessel" on her sides	20		1871	C	Red light, with white light 6 ft. above it.
Circular tower, clapboarded, white	136	112	1858	D, 1st order	Red light.
Circular tower, faced, clapboarded, and white	110	90	1835	C	A gun is fired every hour during fog and snow storms. Var. in 1869, 26° 16' W. The lighthouse must always be kept open to the Southward of Comorant Point. Visible between the bearings S.W. by W. to E. Depôt of provisions here for shipwrecked mariners.
Circular tower, faced, clapboarded, and white	100	75	1831	C	Visible between bearings of N.N.W. round by South to S.E. by E.
Circular tower, clapboarded, white	112	109	1858	D, 2nd order	A gun fired every hour during fogs and snow storms. Depôt of provisions for shipwrecked mariners.
Hexagonal tower, white	75	54	1871	C	A fog whistle sounded in snow storms, and in thick or foggy weather for ten seconds in every minute, thus making an interval of 50 sec. between each blast.
Hexagonal tower, white	147	54	1871	C	An interval of two minutes between each flash.
Octagonal tower, surmounting keeper's dwelling	70	35	1871	C	
A low square tower, with dwelling house combined, white	110	37	1871	C	Visible from all points of approach seaward.
Circular tower, clapboarded, white	100	75	1830	C	Depôt of provisions for shipwrecked mariners. Var. in 1869, 25° 40' W. A gun will be fired every hour during fog and snow storms.
Square tower, white	43		1859	C	Pilots stationed here.
Circular, clapboarded, white	112	65	1844	C	A gun fired every half hour during fog and snow storms.
Vessel painted red, with words "Red Island Light Ship" on each of her sides	{ 34 feet from deck. }		1871	C	The vessel lies moored in 10 fathoms of water, in a N.E. direction from Red Island, a little open to the N. of Hare Island, with the red buoy lying about half a mile in a W.S.W. direction. A steam fog whistle has been placed on the above-named light ship, and during thick and foggy weather and snow storms will be sounded for 10 seconds in every minute, thus making an interval of 50 seconds between each blast.
.....			1872		A fog whistle has been placed on this vessel, and will be sounded with a blast of 8 seconds' duration, then an interval of 8 seconds, then a blast of 8 seconds, and then an interval of 2 minutes 20 seconds.

List of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE GULF

Name of light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Red Islet.....	On centre of islet.....	48 4 20	69 32 56	One.....	F	.....	12
Lark Islet.....	Entrance to Saguenay...	48 5 30	69 49 0	One.....	F	.....	10
Green Island....	On North point of islet..	48 3 17	69 25 10	One.....	F	.....	13
Brandy Pots.....	42 fathoms from S. E. end of the islet.....	47 52 30	69 40 50	One.....	F	.....	10
Long Pilgrims....	20 fathoms west of centre of island, and 54 fathoms south from water's edge.	47 43 15	69 44 20	One.....	F	.....	12
Grand Isle, Kamouraska.....	120 fathoms from N. E. end of island, 80 fathoms from water's edge.	47 38 20	69 51 40	One.....	F	.....	18
South Traverse...	Light vessel, N. E. part of St. Roque Shoals.....	47 22 1	70 14 50	Two. Main light 4 feet higher than the other...	F	.....	9
South Traverse...	N. W. edge of St. Roque Shoals.....	47 19 50	70 16 0	Two. Main light 8 feet higher than the other...	F	.....	6
	50 fathoms from south point of islet.....	47 12 25	70 21 26	One.....	Rev	Every 1½ minute.	13

ST. LAWRENCE

Crane Island.....	1½ mile from west point of island.....	47 3 0	70 34 30	One.....	F	.....	10
Belle Chasse.....	East end of island.....	46 56 0	70 46 0	One.....	F	.....	8
Point St Lawrence	Island of Orleans.....	46 51 50	71 0 40	One.....	F	.....	10
Monts du Lac....	Cape Rouge.....	47 7 46	70 42 36	One.....	F	.....	10
St. Antoine.....	South Shore.....	46 39 40	71 36 10	One.....	F	.....	10
St. Croix.....	On shore near high water mark, and a quarter of a mile north of church.	46 37 45	71 44 16	One.....	F	.....	6
Port Neuf.....	On north shore, ¾ of a mile off the river.....	46 41 48	71 52 10	Two. S. W. & N. E., nearly 180 yards apart.....	F	.....	5

of the Department of Marine and Fisheries.—*Continued.*AND RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Circular, grey stones	75	51	1848	C	A gun fired every half hour during fog and snow storms.
Square, wood, white	35	29	1872	C	
Octagonal, clapboarded, white	60	40	1809	C	
Brick, drab color	78	39	1862	D. 4th order....	
Brick, drab color	180	39	1862	D. 4th order....	
Wood	166	39	1862	C	Variation in 1869, 19° 0' W.
Two masts, painted red			1836	C	The ship's bell is kept tolling during fogs and snow storms. When the light-ship is out of place, the ball at the mainmast head is taken down during the day, and she exhibits one light instead of two during the night, until again moored in her proper place.
.....			1871	C	
.....					
Stone, conical, white	63	38	1843	C	If the vessel should be out of place, the light on the foremast alone will be exhibited, and during the day the ball on the foremast head will be taken down. A bell will be tolled during thick weather, fogs, and snow storms.

RIVER.

Wood	44	37	1862	C	Variation in 1870, 17° 50' W.
Wood	70	30	1862	C	
Wood, white	38		1869	C	
Square tower, painted white	175	30	1870	C	
Wood, white	96		1858	C	
Wood, white	30	20	1842	C	A small light to assist in keeping in channel for some distance up and down the river.
Both, stone and white, the lower lantern on roof of house	{ 200 120 }	.....	1842	C	
					These lights in one lead up Richelieu Channel to the light on Richelieu Island.

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl., F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Platon Point.....	On south side, 1½ mile below Richelieu Island.....	46 39 13 N. light	71 53 3	Two, S. 72° W. 169 yards apart.....	F	.....	12
Richelieu	Centre of Island	46 38 30	71 54 51	One	F	.....	6
Langlais Point....	On south shore, ½ a mile below Great Chene River ..	46 35 5	71 59 35	One	F	.....	5
Cape Charles	On Cape	46 33 39	72 4 15	Two, N. 67° W., 80 yards apart.....	F	.....	4
Grondine	North shore.....	46 35 49	72 4 12	Two, S 66° W., 1,350 yards apart.....	F	.....	5 each
St. Pierre des Becquets.....	South shore, summit of St. Pierre Point	64 30 28	72 12 30	One	F	.....	5
Batiscan	North shore, 1½ mile below Batiscan Church.....	46 30 16 S. light	72 14 52	Two, S. 73° W., 222 yards apart.....	F	.....	3
Champlain	North shore, near Champlain Church	46 24 34	72 20 32	One	F	.....	4
Cape Madaleine.	Lower light, north shore, 3 miles below cape	46 23 46 S. light	72 27 18	Two, S. 60° W., 200 yards apart.....	F	.....	4
	Upper light, north shore, 2 miles below cape	46 23 16 W. light	72 28 38	Two, S. 85° W., 235 yards apart.....	F	.....	6
St. Francis Port ..	South shore, high light on a pier.....	46 16 20 W. light	72 37 15	Two, S. 76° W., 3,240 yards apart.....	F	.....	3 each
Point du Lac	North shore.....	46 16 50	72 40 22	One	F	.....	12
St. Peter's Lake.	East	46 15 56	72 42 18	One	F	.....	6
	Centre	46 11 39	72 53 20	One	F	.....	6
	Western.....	46 9 39	72 56 50	One	F	.....	6
	Isle au Raisins	46 6 14	72 57 50	One	F	.....	6
	South part of Island	46 6 0	72 58 0	One	F	.....	6

of the Department of Marine and Fisheries.—*Continued.*RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, octagonal, white ...	{ 152 130	24 7	1816 1824	{ C	These lights lead up the Richelieu. Variation in 1868, 15° W.
Octagonal, stone	27	7	1816	C	This light and the light on Platon Point are very nearly in the same line of bearing, namely N. 73° E.
Wood	35	8	1844	C	To show off Battures des Grondines, and to avoid Battures Cordin, and as a steering point for Richelieu.
Wood	110	20	1856	C	Lead to and from Cape à la Roche and Cape Charles, and to answer as a steering point through Richelieu.
Octagonal, wood, white ...	50 & 25	30	1857	C	To lead off Cape à la Roche to Levrard.
Octagonal, wood, white ...	85	12	1844	C	To indicate the widest berth off Cape à la Roche. Variation in 1870, 14° 10' W.
Octagonal, wood, white ...	{ 39 20	31 11	1844	C	To lead through Levrard & clear Batture St. Ann on south, and Pouillier on north
Octagonal, wood, white ...	30	10	1844	C	Steering point for lower point of Bay of Champlain.
Octagonal, wood, white ...	{ 53 33	13 10	1843	C	To clear Batture Bigot. Variation in 1869, 14° W.
Octagonal, wood, white ...	{ 55 35	30 10	1843	C	To clear Pouillier Provenché.
Wood, octagonal, white, high and low	{ 31 12	21 4	1849	C	The lights in one with the eastern light vessel on lake lead up through the dredged channel. S. 70° W. High light on a pier, and removed in winter.
Octagonal, wood, white ...	71	24	1843	C	Shows the turn of channel at Point du Lac.
Red	15	8	.....	C	Removed at the approach of winter on account of ice. On south side of Petite Traverse of Rivière du Loup.
Red	15	8	1816	C	Removed at the approach of winter on account of ice. To indicate the turn of the channel, and leads to No. 2.
Red	15	8	1828	C	In connection with Isle à la Pierre, and bearing in line with No. 1, and to avoid Battures St. François and à la Carpe. Variation in 1869, 13½° W.
Red	30	20	1843	C	To lead from the entrance of the Batture of Lake St. Peter to No. 1 light vessel up and down.
Red . . . . .	.....	.....	1863	C	

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Stone or Isle à la Pierre.....	On East part of island...	46 5 54	72 59 40	One.....	F	.....	6
La Valtrie	South side of island.....	45 52 55 S. light	73 16 0	Two, S. 38° W., 320 yards apart.....	F	.....	7
Traverse	2½ miles above Contrecoeur	45 49 52 N. light	73 17 0	Two, S. 28° W., 1,500 yards apart.....	F	.....	.....
Isles aux Prances	Opposite Vercheres.....	45 46 50	73 22 30	One.....	F	.....	.....
Repentigny.....	½ of a mile below Répentigny	45 45 2 N. light	73 26 8	Two, S. 22° W., 170 yards apart.....	F	.....	4
Isle à la Bague	On islet	45 44 14	73 26 15	One.....	F	.....	4
St. Therese.	On island	45 41 22 N. light	73 27 40	Two, S. 50° W., 220 yards apart.....	F	.....	4
Pointaux Trembles	North shore	45 38 26 E. light	73 29 20	Two, S. 46° W., 600 yards apart.....	F	.....	.....
Montreal	On island wharf.....	45 30 22	73 33 14	Two, S. 41° W., 73 yards apart	F	.....	4 each
Lachine	On pier at entrance of canal, North shore.....	45 27 0	73 41 0	One.....	F	.....	6
Lake St. Louis	Light vessel, 4-5ths of a mile above Lachine.....	45 26 30	73 42 10	One.....	F	.....	6
	Light vessel 2½ miles above Lachine.....	45 25 40	73 44 15	One.....	F	.....	6
River Ottawa:—							
Claire Point....	Light vessel South side of channel, 63 chains above Dewal from Light No. 3 on St. Lawrence, near Claire Point.....	45 24 30	73 45 20	One.....	F	.....	.....
	On shoal North side of channel, about 1½ mile below Point Claire, 120 chains westerly from light ship near Point Claire.....	45 26 0	73 48 10	One.....	F	.....	7
Wale Shoal .....	.....	45 25 0	75 37 0	One.....	F	.....	8
Point L'Original ..	On the point.....	45 42 0	74 46 15	One.....	F	.....	6
McTavish Point..	On the pier.....	45 50 0	74 52 30	One.....	F	.....	.....

of the Department of Marine and Fisheries.—*Continued.*RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Red.....	30	.....	.....	C.....	Indicate entrance to channel and lead to No. 1.
Red	{ 21 13 }	17 { 9 }	1831	C	Leads to channel called Flat Islands.
Wood, white, square .....	.....	.....	1857	C	To lead into Lavaltrie Channel and Isle Bouchard, and indicates the new channel to be kept in line till Lavaltrie Lights are brought to bear.
Octagonal, wood, white .....	.....	.....	1866	C	To clear the island
Wood, white.....	{ 30 14 }	26 { 14 }	1843	C	To lead through Isle à la Bague Channel, and to avoid Pouillier on North and shoal on South.
Octagonal, wood, white ...	24	1	1831	C	To indicate the island being extremely low land. Removed in winter on account of the ice
Square, wood, white .....	.....	.....	.....	C	Leads to entrance through Vercheres Channel up and down the river. Variation in 1869, 12½° W.
High and low, octagonal, wood, white	{ 53 25 }	.....	1846	C	To lead through the channel between Point au Trembles and Yarennes, up to Longue Point.
Wood, octagonal.....	{ 38 29 }	31 { 21 }	1830	C	Red lights. Indicate the deepest channel to and from the harbor. Variation 1870, 11° 45' W.
Square, wood, white.....	23	17	1849	C	Variation in 1870, 11° 25' W.
Circular, iron, red,.....	20	.....	1849	C	Tower on vessel white, lantern red.
Red	20	.....	.....	C	Tower on vessel white, lantern red.
Iron, red	21	17	.....	C	Tower on vessel white, lantern red.
Wood.....	29	25	.....	C	
Lantern on framework	35	25	1870	C	
Hexagonal, white.....	45	30	1871	C	Beacon light.
.....	35	30	1871	C	Beacon light.

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	R.; Fl.; F & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Green Shoal	On pier S. side of channel, 7 miles below Ottawa City	45 29 30	75 51 20	One	F .....	.....	9
Chateauguay	Light vessel 4½ miles above Lachine	45 24 0	73 49 18	One	F .....	.....	6
Beauharnois	Lower entrance of canal, South shore	45 19 40	73 54 30	Two N. 61° E., 414 yards apart	F .....	.....	10
Grosse Point	Upper entrance of Beauharnois Canal	45 15 35	74 9 25	Two	F .....	.....	8
Off Grosse Point	On piers in river	45 15 30	74 9 30	Two	F .....	.....	3 or 4

ST. FRANCIS

Coteau du Lac	On pier landing	45 15 30	74 13 10	One	F .....	.....	3
McGees Point	North shore	45 12 25	74 19 10	One	F .....	.....	10
Cherry Island	South side of North channel	45 9 10	74 22 30	One	F .....	.....	10
Cherry	On a pier in the river	45 8 20	74 25 40	One	F .....	.....	8
Crib	North side of channel, on a pier 4 miles S.W. from Lancaster village	45 6 40	74 30 30	One	F .....	.....	5
Cornwall Canal .....	.....	45 1 0	74 55 25	One	F .....	.....	.....

BETWEEN ST. FRANCIS

Coles Shoal.	On pier 5 miles W. of Brockville, ½ of a mile from North shore	44 34 10	75 45 40	One	F .....	.....	6
Grenadier Island	S.W. point of island, N. side of channel, 2 miles below Rockport	44 24 30	75 54 10	One	F .....	.....	10
Lyndock Island	N.W. point of island, S. side of channel, 5 miles W. of Rockport	44 22 30	76 0 10	One	F .....	.....	7
Gananoque Nar- rows	N.E. end of Little Slave Island, S. side of channel, 5 miles below Gananoque	44 20 50	76 4 10	One	F .....	.....	7
Jack Straw Shoal	On a pier N. side of channel, 3 miles below Gananoque	44 21 0	76 6 30	One	F .....	.....	6
Spectacle Shoal	On a pier N. side of channel, 2 miles W. of Gananoque	44 20 15	76 10 40	One	F .....	.....	9
Red Horse Rock	On pier S.E. side of channel, half mile W. of Jack Straw Shoal	44 19 30	75 11 20	One	F .....	.....	.....

of the Department of Marine and Fisheries.—*Continued.*RIVER. — *Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, white.....	36	17	.....	C.....	
Red.....	20	.....	1849	C.....	Tower white, lantern red.
Wood, square frames.....	.....	.....	1850	C.....	In one lead to Chateauguay Light.
Square, wood, one red and one white.....	20	20	1845	} C.....	Variation in 1869, 11° 15' W.
Square, wood, one red and one white.....	.....	.....	1850		To be kept in one when leaving the canal, till the upper lights come in one.
.....	.....	.....	1850	C.....	

LAKE.

On a pole.....	24	.....	.....	C.....	Red light.
Square, wood, white.....	30	24	.....	C.....	Midway between Coteau and Cherry Island.....
Square, wood, white.....	40	30	1847	C.....	
Square, wood, white.....	.....	.....	1849	C.....	Opposite the light there is a beacon North of the channel.
Square, wood, white.....	20	20	1844	C.....	
.....	.....	.....	1865	C.....	Variation in 1869, 9½° W. In charge of the Superintendent of Public Works.

AND ONTARIO LAKES.

White, square, wood.....	33	31	1856	C.....	These small lights are for the purpose of marking out the channel through the Thousand Islands, between Brockville and Kingston. Variation in 1870, 7° 15' W.
White, square, wood.....	55	37	1856	C.....	
White, square, wood.....	40	26	1856	C.....	
White, square, wood.....	44	37	1856	C.....	
White, square, wood.....	31	29	1856	C.....	
White, square, wood.....	28	26	1856	C.....	
White, square, wood.....	28	26	1856	C.....	

LIST of Lights of the Dominion of Canada, under the charge
BETWEEN ST. FRANCIS AND

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F, Fl., V., & Fl., Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Burnt Island	S.E. point of island, N. side of channel, $\frac{1}{2}$ of a mile from Spectacle Shoal.	44 19 57	76 11 40	One	F	.....	10
Wolfe Island	On Quebec or East point.	44 14 40	77 16 20	One	F	.....	6

LAKE

Snake Island	On pier on bar, N. side of channel, 5 miles W. of Kingston	44 11 30	76 37 40	One	F	.....	6
Gage or Simcoe	S.W. point of Simcoe Island, 9 miles W. of Kingston	44 9 20	76 38 40	One	F	.....	13
Pigeon Island	Four miles from head of Wolfe Island	44 4 10	76 38 10	One	Rev	One minute 10 seconds	15
Outer Drake or False Ducks	East point of Island	43 57 0	76 49 0	One	F	.....	22
Point Pleasant	Entrance to Bay of Quinté	44 6 30	76 55 30	One	F	.....	104
Peter Point	On point	43 51 0	77 13 40	One	Rev	Every minute & 40 seconds	21
Salmon or Wicked Point	On the point ..	43 52 0	77 19 45	One	F	.....	...
Telegraph Island ..	Bay of Quinté	44 10 20	77 9 45	One	F	.....	12
Scotch Bonnet or Egg Island	On small island, 1 mile S.W. of Nicholson's Island	43 54 0	77 38 0	One	F	.....	12
Presqu' Isle {	East point	43 59 30	77 45 30	One	F	.....	18
	On a hill in shore	44 00 20	77 46 0	Two, W.S.W., and E.N.E. nearly	F	.....	304
Cobourg	Pier head	43 57 10	78 14 0	One	F	.....	8
Peter Rock or Gull Island	W. by S., 4 miles from Cobourg	43 56 10	78 17 0	One	F	.....	10
Port Hope	Pier head, East side	43 56 15	78 20 0	One	F	.....	4
Darlington	Pier head	43 52 30	78 43 20	One	F	.....	4
Oshawa Port	Pier head	43 52 0	78 52 30	One	F	.....	...
Whitby Harbor	West pier	43 51 0	79 1 30	One	F	.....	5
Pickering or Liverpool	East pier head	43 48 45	79 7 20	One	F	.....	...
Toronto	Gibraltar Point, S.W. side of point, $1\frac{1}{2}$ miles South of Toronto	43 37 0	79 28 30	One	F	.....	18
	Queen's Wharf, W. part, the other on arm of pier	43 38 20	79 28 45	Two	F	.....	6

of the Department of Marine and Fisheries.—*Continued.*ONTARIO LAKES.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
White, square, wood.....	64	26	1856	C	{ These small lights are for the purpose of marking out the channel through the Thousand Islands, between Brockville and Kingston. Varia- tions in 1870, 7° 15' W.
White, square, wood.....	.....	.....	1856	C	

ONTARIO.

Stone, square	35	35	1858	C	Red light.
Round, stone, white	45	40	1833	C	
White	46	41	1870	C	
White	63	62	1828	C	
Octagon .....	.....	52	1866	C	
Round, stone	62	60	1833	C	Variation in 1869, 6° 0' W.
Square building surmount- ing keeper's dwelling, and painted white	40	.....	1871	C	Red light.
Square, tower on dwelling white	46	41	1870	C	
Stone, white	51	54	1856	C	
Octagon, stone, white	67	63	1840	C	
.....	.....	.....	1851	C	
Square, wood, white	20	16	1844	.....	Harbor light not under Marine De- partment.
Octagon, stone	45	48	1840	.....	On a rock off the point.
.....	.....	.....	.....	.....	Red facing South, white facing East and West. Harbor light not under Marine Department.
On a stone house .....	.....	.....	.....	.....	Variation in 1869, 3° 30' W. Harbor light not under Marine Department.
.....	.....	.....	1863	.....	Not under Marine Department.
Square, wood	12	8	1844	.....	Not under Marine Department.
.....	.....	.....	1863	.....	Not under Marine Department.
Hexagonal, stone	66	62	1820	.....	A fog bell is placed on this station.
Wood, square, red	22	16	1838	.....	Red light is on the arm of the pier to be passed closely on port hand. Varia- tion in 1868, 2° 50' W. Harbor light not under Marine Department.

LIST of Lights of the Dominion of Canada, under the charge

LAKE ONTARIO

Name of Light.	Place.	Latitude N	Longitude W.	Number of Lights and relative positions.	F; Fl; F. & Fl; Rev; Int; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Credit Port.....	On pier	43 33 30	79 40 10	One.....	F	.....	....
Oakville.....	Pier head	43 26 45	79 45 20	One.....	F	.....	12
Burlington Bay...	South pier of entrance ..	43 18 0	79 53 30	Two.....	F	.....	{ 13 } 4
Dalhousie Harbor.	East pier head.....	43 13 40	79 20 30	One.....	Rev	.....	10
Fox Island.....	Lake Simcoe	44 19 30	79 30 0	One.....	F	.....	12

LAKE

Colborne Port and Range Light....	West pier head.....	42 53 0	79 19 30	Two.....	F	.....	12
Mohawk Island...	On an island between Colborne and Maitland Ports, 1 mile S.W. of mainland	42 50 10	79 37 0	One.....	Rev	Every 3 minutes	10
Maitland Port....	West pier	42 51 40	79 39 50	One.....	F	.....	10
Dover Port.....	West pier	42 47 30	80 16 30	One.....	F	.....	8
Long Point or North Foreland.	East extremity	42 33 0	80 9 10	One.....	F	.....	25
Big Otter Creek, or Burwell Port...	333 yards in shore	42 39 0	80 54 30	One.....	F	.....	12
Catfish Creek, or Bruce Port .....	.....	42 39 20	81 5 40	One.....	F	.....	....
Stanley Port	Extreme of West pier....	42 40 0	81 17 0	One.....	F	.....	4
Pelee Island	N.E. point	41 50 20	82 45 30	One.....	F	.....	9
Pelee Spit.....	On caisson, 2½ miles S. from extreme end of point from North shore.	41 52 20	82 38 0	One.....	Rev	.....	20
Middle Island ...	Between Pelee and Kelly's Island	41 40 58	82 40 15	One.....	F	.....	12
Amherstburg	Bois Blanc Island, S. point	42 6 0	83 13 30	One.....	F	.....	18

ST. CLAIR

Thames River ...	Mouth of river, S. shore ..	42 18 40	82 36 0	Two, S. 26° E., & N. 26° W., 450 yards apart.....	F		{ 12 } 6
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of the Department of Marine and Fisheries.—*Continued.*—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
.....	.....	.....	1863	.....	Not under charge of Marine Depart- ment.
Octagon, wood	42	36	1836	C	
High light, stone building. small light, wood, white.	{ 60 18	{ 54 14	{ 1833 1845	{ C	
Wood, white	53	44	1852	C	Entrance to Welland Canal.
Brown, square tower.....	46	39	1870	C	

ERIE.

Wood, white	{ 58 14	{ 54 10	1852	C	Entrance to Welland Canal.
Round, stone, white... ..	64	60	1848	C	Variation in 1870, 2° 40' W.
Hexagon, wood, white .....	.....	.....	1848	C	Grand River entrance.
Hexagon, wood, white	20	20	1846	C	
Octagon, wood.....	65	60	1843	C	Variation in 1870, 1° 40' W.
Octagon, wood.....	96	46	1840	C	
On a pole .....	.....	.....	.....	.....	Light not under Marine Department.
Lantern	20	20	1844	C	W. by N. clears Pelee Shoal. Variation in 1870, 9° 45' E. On 21st Sept., 1872, Pelee Island Light changed to a fixed white light, and Pelee Spit to a revolving white light.
Round, stone	45	40	1833	C	
Octagon, wood, white	76	61	1861	C	
Square, wood, white	70	49	1872	C	Red light.
Round, stone	56	40	1837	C	

LAKE.

Square, wood, stone, round tower	{ 34 15	{ 30 15	{ 1837 1845	{	The two lights in one lead over bar.
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LIST of Lights of the Dominion of Canada, under the charge

HURON

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl; F & Fl; Rev. Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Goderich	On high bank South of entrance to harbor. Two on N. pier.	43 45 10	81 32 30	Three	F .....	.....	25- the high light
Point Clark	N. shore, about 20 miles N. E. from Goderich ..	44 4 40	81 34 30	One	Rev	Every ½ minute.	15
Chantry Island ...	S. side, about 2½ miles W. from Saugeen	44 29 40	81 13 0	One	F .....	.....	15

GEORGIAN

Isle of Coves	N.E. point of island, entrance to Georgian Bay	45 19 40	81 32 10	One	Rev	Every 3 minutes. Interval of light 1½ minutes	15
Griffith Island, N.	N.E. end of island, 20 miles from Owen Sound	44 50 30	80 42 40	One	F .....	.....	12
Nottawasaga Isl'nd	About 4 miles N.W. from Collingwood	44 32 30	80 4 20	One	Fl	Every ½ minute.	10
Collingwood	Breakwater pier.	44 31 0	80 2 10	One	F .....	.....	6
Michaels Point ...	Michael's Bay, south side of Grand Manitoulin	45 34 20	81 56 0	One	F .....	.....	13
Christian Island ..	S.E. part of Island, 1½ miles from main land ..	44 47 20	79 57 30	One	F .....	.....	8
Parry Sound	Mink Island	45 22 0	80 12 45	One	F .....	.....	16
Lonely Island .....	.....	45 38 30	81 15 48	One	F .....	.....	20
Byng Inlet .....	.....	45 44 12	80 27 30	.....	F .....	.....	.....
Red Rock	One mile E. of Killarney, on Red Rock Point	45 58 40	81 16 30	One	F .....	.....	8
Partridge Island ..	1½ miles N. W. of Red Rock light	45 59 20	81 19 50	One	F .....	.....	5
Range Lights	Shaftesbury or Little Current	45 59 30	81 47 40	Two	F .....	.....	6
Clapperton Island.	North Point	46 3 0	82 5 0	One	F .....	.....	8
Sulphur Island ...	West end of island	46 9 0	83 30 0	One	F .....	.....	12

LAKE

St. Ignace	3 miles from St Ignace Island	48 42 15	88 10 30	One	P .....	.....	8
Porphyry Point ..	.....	.....	.....	.....	.....	.....	.....
Michipicoten Isl'd.	S. point Michipicoten Isl'd.	47 42 15	86 1 35	One	F .....	.....	18
Quebec Harbor, n'r Michipicoten Is-land Harbor	Agate Island, in Quebec Harbor	47 42 50	86 2 10	One	F .....	.....	10

of the Department of Marine and Fisheries.—*Continued.*

LAKE.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
} Square tower, white	150	20	1847	C	Variation in 1870, 0° 50' W. Light on bank only in charge of Marine Department.
Round, white.....	87	87	1859	D. 2nd Ord	
Round, white.....	86	86	1859	D. 2nd Ord ...	

BAY.

Round, white.....	90	85	1859	D. 2nd Ord	Variation in 1870, 0° 50', W.
Round, white.....	130	85	1859	D. 3rd Ord	
Round, white.....	86	85	1859	D. 2nd Ord	Red light. Not under Marine Department.
On frame work	24	.....	1858	C.....	
White, square	40	28	1870	C.....	At N. side of channel leading into Killarney Harbor.
White, round.....	61	60	1859	D. 4th Ord	
Square tower on keeper's dwelling, white.....	56	40	1870	C	
White, square	195	42	1870	C	
On wood work.....	.....	60	1870	C	
Wood, square, white.....	{ 80 20 }	{ 20 12 }	1866	C	
Wood, square, white.....	30	20	1866	C	
Wood, square, white.....	{ 24 22 }	.....	1866	C	
Wood, square, white.....	.....	35	1866	C	
Square tower, wood, white.	45	20	1867	C	

SUPERIOR.

Square tower, wood, white.....	.....	.....	1866	C	Position by Bayfield's Chart. In course of construction.
Square, wood, white.....	56	32	1872	.....	
Square, wood, white.....	32	20	1872	.....	

LIST of Lights of the Dominion of Canada, under the charge

NEW BRUNSWICK

GULF OF ST.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Dalhousie	South side of entrance of harbor.....	48 3 45	66 20 50	One	F	.....	13
Eathurst	On Alston Point.....	47 39 10	65 36 40	Two	F	.....	10
Caraquet.	Caraquet Island, Bay des Chaleurs	47 49 40	65 54 0	One	F	.....	14
Shippegan.....	On Isl'd, Shippegan H'rbr	47 43 0	64 38 0	One	F	.....	11
Miscon Island	Birch Point	48 1 0	64 29 25	One	F	.....	12
Tracadie	N. side Tracadie Gully ..	47 30 0	64 52 0	One	F	.....	12
Portage Island	On S. point of island ..	47 9 50	65 2 40	One	F	.....	12
Fox Island	N.W. point of island ..	47 8 10	65 2 30	Two	F	.....	10
do	East end of island	47 6 50	65 0 10	Two	F	.....	10
Oak Point.....	Miramichi Bay.....	47 7 40	65 15 10	Two	F	.....	10
Grant's Beach	Miramichi Bay.....	47 5 30	65 28 10	Two, bearing S.W. & N.E. from each other.....	F	.....	10
Preston Beach....	Miramichi Bay.....	47 4 50	65 54 40	Two	F	.....	10
Escuminac Point ..	On the point	47 4 32	64 47 30	One	F	.....	14
Richibucto	On the head	46 39 40	64 42 30	One	F	.....	12
Cassie's Point	On the point	46 19 15	64 30 20	One	Rev	Flash every alternate 1/2-min.	14
Shediac Beacons..	Shediac Island	46 15 20	64 31 50	Two	F	.....	10
Shediac	Du Chêne Wharf.....	46 14 20	64 31 0	One	F	.....	6
Jourimain	On Cape Jourimain ..	46 10 0	63 49 30	One	F	.....	15

NOVA

GULF OF ST.

Pugwash	Pugwash Harbor	45 52 30	63 40 20	.....	F	.....	8
Amet Island	Centre of island, Northumberland Strait.....	45 50 15	63 10 10	One	F	.....	10
Caribou Island	N.E. part	45 46 0	62 42 20	One	Rev	Every minute.	10
Pictou Harbor....	South point of entrance..	45 41 25	62 39 26	Two, vertical, upper white, lower red, 25 feet apart ..	F	.....	11
Pictou Island ...	S.E. point	45 49 10	62 30 29	One	F	.....	12
Cape St. George ..	On North side of Cape ..	45 52 35	61 54 40	One	Rev	Every 1/2-minute.	25
Pomquet, St. George Bay.....	N.E. end of island.....	45 39 40	61 44 30	One	F	.....	9

of the Department of Marine and Fisheries.—*Continued.*

WICK.

LAWRENCE.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, wood, white	49	33	1870	C	Seen from all points of approach.
Beacon lights, hexagonal, white	{ 31½ 27 }	{ ... }	1871	C	The lights are for the purpose of guiding vessels into the harbor, by keeping them in range. Inner light is highest, and shows red; outer light white.
Square tower on keeper's dwelling, white.	52	48	1870	C	
Square, wood, white	32	20	1872	C	
Wood, octagon, white	79	74	1856	C	Red light.
Wood, square, white	39	20	1872	C	
White	46	42	1869	C	
Wood, white	50			C	Two beacon lights.
Wood, white	30		1872	C	Two beacon lights.
Wood, white	{ 40 60 }	{ ... }	1869	C	Two beacon lights.
White	{ 120 140 }	{ ... }	1869	C	Two beacon lights.
White	{ 55 66 }	{ ... }	1869	C	Two beacon lights.
Wood, white	70	58	1841	D. 3rd Ord.	Variation in 1869, 23° 20' W.
Square tower, white	70	50	1864	D. 4th Ord.	
Square, wood, white	40	27	1872	C	
White	{ 48 56 }	{ ... }	1869	C	
On a pole	15		1860	C	Not under control of Marine Department.
White, octagonal.	72	45	1870	C	Visible from S.E. round by N. to W.

SCOTIA.

LAWRENCE.

Square, white	48	44	1871	C	Shows red seaward and white towards the harbor.
Square, wood, white	44	26	1866	C	Visible round horizon.
Square, white	35	26	1868	C	
Octagon, wood, striped red and white vertically.	65	55	1834	C	Lighted when the navigation is free from ice. A small red light is seen below lantern; kept W.S.W. clears the E. reefs off Pictou Island. Variation in 1870, 22° 40' W.
Square, white	52		1833	C	
Square, white	350	39	1861	C	
Square, white	50	23	1868	C	Red light, visible from West round North to South.

LIST of Lights of the Dominion of Canada, under the charge
NOVA SCOTIA
CAPE BRETON

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl.; F. & Fl., Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Port Hood.....	South entrance of Harbor	46 0 0	61 31 40	One.....	F	.....	10
Sea Wolf or Margaree Island....	Summit or middle of island	46 21 30	61 15 33	One.....	F	.....	21
Cheticamp.....	Near South end of island.	46 36 32	61 3 10	One.....	Rev	Flash every 45 s.	20
Ingonish.....	Ingonish Island.....	46 41 20	60 20 0	One.....	F	.....	15
Bird Island.....	Ciboux Island, $\frac{1}{3}$ of a mile from North end.....	46 23 10	60 22 30	One.....	Rv	Every minute.....	14
St. Ann's Harbor.	On North point of beach.	47 17 30	60 32 15	.....	F	.....	8
Black Rock Point.	S. side of entrance to Big Bras d'Or.....	46 18 30	60 23 30	One.....	F	.....	.....
Low Point.....	Flat point East side of Spanish Bay.....	46 16 30	60 7 30	One.....	F	.....	14
Flint Island.....	On island.....	46 11 5	59 45 50	One.....	Rev	Every 15 seconds	12
Scattarie Island...	N. E. point on Trap Rock	46 2 13	59 40 18	One.....	Rev	Visible a minute, eclipsed half a minute.....	15
Main-a-Dieu.....	On the South side of West Point of Scattarie Island	46 0 30	59 47 30	.....	F	.....	9
Louisburg Harbor.	N. side of entrance, 60 fathoms in shore of point	45 54 34	59 57 15	One.....	F	.....	16
Green Island.....	Summit of island.....	45 28 51	60 53 40	One.....	F	.....	14
Sydney Harbor...	On West end of South Bar	46 12 40	60 12 40	One.....	F	.....	10
Canso Cape.....	North part of Cranberry Island.....	45 19 50	60 55 29	Two, in one tower, vertically, 12 yards apart.	F	.....	upper 15 lower 9
Canso Harbor.....	On Hart or Cutler's Island	45 21 0	60 58 31	One.....	F	.....	12
Arichat Harbor...	Marache Point, South entrance Madame Island.	45 29 2	61 1 52	One.....	F	.....	8

of the Department of Marine and Fisheries.—Continued.

—Continued.

ISLAND.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square tower, white	54	.....	1854	C	Red light on north side, white light on south side.
Square tower, white	298	.....	1854	C	To vessels in dangerous proximity to the island the light may become obscured by the abrupt cliffs on the sides of the island.
Square, wood, white	149	24	1872	C	D. 5th order...
.....	237	40	1871	C	
White.....	77	33	1863	C	Alternate white and red flashes.
.....	24	30	1871	C	The light exhibited to find entrance through on a dark night.
White, square	45	23	1868	C	
Octagon, red and white vertical	70	51	1832	C	Variation in 1869, 25° 45' W.
Octagonal, white	65	43	1856	C	Visible round compass.
Octagonal, white	90	70	1839	Catoptric lights with parabolic reflectors and argand burners	The light should never be brought to bear to eastward of N. N. E., or to southward of S. S. W., nor approached nearer than 1½ miles. A boat is here to render assistance.
Square, wood, white	90	40	1871	C	Red light.
White, with a black ver- tical stripe.....	85	35	1842	Catoptric lights with parabolic reflectors and argand burners	On keeper's dwelling. Variation in 1869, 26° W.
Wood, square, white	70	31	1865	do	Red light, centre of keeper's dwelling, visible round horizon.
Wood, square, white.....	30½	20	1872	do	Red light.
Wood, octagon, striped red and white horizontally.	{ 75 40 }	60	1815	do	A steam fog whistle about 100 yds. south of the lighthouse; in thick weather it will be sounded eight seconds in each minute.
Wood, square, white.....	42	28	1872	do	Red light.
Wood, square, white.....	34	.....	1851	do	

LIST of Lights of the Dominion of Canada, under the charge
NOVA SCOTIA

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl., F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Arichat Harbor...	On Jerseyman Island...	45 30 20	61 3 4	One.....	F.....	.....	11
Guyaboro' Harbor.	W. side of entrance, near Peart Point, Chedabucto Bay	45 22 47	61 29 11	One.....	F.....	.....	8
Sand Point	S. entrance, Eddy or Sand Point	45 31 30	41 14 40	Two, horizontal, 8 yards apart	F.....	.....	8
Point Tupper.....	Ship Harbor	45 36 40	61 22 0	One.....	F.....	.....	7
North Canso	N. entrance, W. side, 120 yards in shore	45 41 42	61 29 10	One.....	F.....	.....	18
White Head Island	S. W. extremity	45 11 58	61 8 15	One.....	Rev	Every 20 seconds	11
County Harbor ...	On Green Island	45 6 18	61 32 31	One.....	F.....	.....	14
Liscomb.....	On Liscomb Island	44 59 20	61 57 51	One.....	Rev	Red and white, flash every 2 min	15
Beaver Island ...	S. E. part of E. Beaver or William Island.....	44 48 10	62 20 30	One.....	Rev	Every 2 minutes	12
Egg Island	Centre of Island.....	44 39 51	62 51 32	One.....	Rev	Every minute...	14
Devil's Island.....	Devil Island, S. W. part E. entrance to harbor..	44 34 48	63 27 15	One.....	F.....	.....	8
Meagher's Beach..	Sherbrook Tower, Meagher's Beach, E. side of entrance	44 36 6	63 31 55	One.....	F.....	.....	13
Chebucto Head...	W. side ent. Halifax Harb.	44 30 21	63 30 49	One.....	Rev	White flash every minute	18
Sambro'	Middle of island.....	44 26 11	63 33 30	One.....	F.....	.....	20 or 21
Peggy's Point	E. side of entrance to St. Margaret's Bay.....	44 29 30	63 55 0	One.....	F.....	.....	.....
Mahone Bay	Hobson's Nose, Mahone B	44 24 56	64 13 46	One.....	F.....	.....	11

of the department of Marine and Fisheries.—*Continued*,—*Continued*.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, wood, white	39	28	1872	C	Red light.
Wood, square, white	30	20	1864	do	Variation in 1869, 23° 10' W.
Wood, square, white, with a black diamond	25 each	.....	1851	do	Lights in windows at each end of build- ing.
Square, white	44	24	1870	do	Red light. In consequence of the inter- vention of the land on the S. side, can only be seen 3 miles in that direction.
Wood, square, white	110	35	1842	do	There is a good anchorage under the light with the wind off shore. Lantern on keeper's dwelling.
Wood, pyramidal, octagon- al lantern	55	35	1854	do	Light not totally obscured during the eclipses; 10 seconds duration flash, and 10 seconds eclipse.
Wood, square, white	51	28	1873	do	
Wood, square, white	64	28	1872	do	
White, with two black balls seaward, S.S.W.	70	35	1846	do	On house.
Wood, octagonal, black and white vertical stripes on seaward side	80	45	1865	do	Alternate white and red faces, visible round horizon.
Octagonal, dull red with white belt	45	.....	1852	do	Dull red to seaward. Pilots are stationed here.
White, circular roof, red ..	58	48	1815	do	When Sambro' light bears W.S.W., this light should not be brought to the westward of N., which clears the Thrum Cap Shoal. Variation in 1869, 20° 10' W.
Square, wood, white	132	22½	1872	.....	
Octagonal, white	115	60	1758	do	Guns will be fired during thick or foggy weather from the signal station on Sambro' as follows:—Guns from ships will be answered by the discharge of two 24-pounders in quick succession, and the same reply will be made from the island to the sound of a steamer's whistle.
White, square	65	26	1868	do	Red light, lantern on dwelling.
Wood, square, white	68	29	1872	do	Red light.

LIST of Lights of the Dominion of Canada, under the charge
NOVA SCOTIA

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Chester, Mahone Bay.....	East Ironbound Island, Little to Eastward of centre of island.....	44 26 10	64 4 50	One.....	F	.....	56
Cross Island.	Cross Island, E. point Lunenburg Bay.....	44 18 43	64 9 57	Two, vestical 15 yards apart	upper Fl lower F	Every min..	upper 14 lower 6
Lunenburg or Battery Point.....	.....	44 21 41	64 17 36	One.....	F	.....	12
Moser's Island.....	On island, West side of entrance to Le Have River.....	44 14 15	64 18 50	One.....	F	.....	.....
West Ironbound Island, S. side..	Near Cape Le Have, mouth Le Have River.....	44 13 43	64 16 19	One.....	Rev	Every 30 seconds	13
Medway Port.....	Medway Head, W. side entrance.....	44 6 10	64 32 14	One.....	F	.....	10
Liverpool.....	Coffin Island, S. point, Liverpool Bay.....	44 1 58	64 37 34	One.....	Rev	Every 2 minutes	16
Fort Point.....	Fort Point, Liverpool Bay, S. entrance.....	44 2 30	64 42 20	One.....	F	.....	7
Little Hope.....	Nearly on centre of island	43 48 31	64 47 15	One.....	Rev	Every minute ..	12
Port Hebert.....	E. side Port Hebert Har.	43 48 40	64 55 24	One.....	F	.....	10
Ragged Island Harbor.....	Gull Rock.....	43 39 14	65 5 50	One.....	F	.....	10
Shelburne Harbor.	Cape Roseway, near S.E. entrance of Macnutt Island.....	43 37 17	65 15 45	Two, vertical, 21 yds. apart.	F	.....	upper 18 lower 10
Negro Island.....	On Negro Island.....	43 30 54	65 20 58	One.....	Rev	Red and white flashes every minute.....	12
Barrington.....	Baccaro Point, W. side entrance.....	43 26 54	65 28 12	One.....	F	.....	10
Carter's Island.....	Ragged Island Harbor.....	43 42 15	65 5 29	One.....	F	.....	11
Sable Cape.....	On Cape.....	43 23 19	65 37 11	One.....	Rev	Bright 15 seconds dark 25 seconds	12

of the Department of Marine and Fisheries.—*Continued.*—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Oblong, white, wood, lan- tern and tower on keeper's dwelling	150	46	1871	D	Seen from all points of approach. The lantern alone is visible; building hid- den by trees.
} Red, octagonal base	{ 100 65 }	53	1832	Catoptric lights with parabolic reflectors and argand burners	Pilots resort here; and vessels might take refuge in case of necessity. Upper bright, 45 seconds; dark, 15 seconds. Variation in 1869, 19½° W.
Square, white	50	24	1864	do	On top of dwelling house, which is white.
Square, white	55	26	1868	do	Red light.
Square, tower, white	72	29	1855	do	Near the edge of a cliff, 40 feet high.
Square, white, with black square seaward	44	23	1851	do	Like a dwelling house.
Octagon base, horizontal stripes red and white, eight in number	65	50	1812	do	Light, 30 seconds; dark, 90 seconds. Variation in 1869, 18½° W.
Square, white	30	17	1855	do	Red light, left on port side when enter- ing the harbor.
Square, white	40	26	1865	do	Red light, centre of keeper's dwelling, visible round horizon.
Wood, square, white	33	29	1872	do	Red light.
Square, white	56	31	1853	do	
} Octagonal, vertical stripes black and white	{ 120 65 }	77	{ 1788, rep'd 1858 }	do	Variation in 1869, 17½° W.
Square, wood, white	48	29	1872	do	
Square, white, with black ball seaward	49	35	1850	do	Red light.
Wood, square, white	66	29	1872	do	Red light.
White, octagon	53	50	1861	Catoptric lights with parabolic reflectors and argand burners	Variation in 1869, 17° 10' W.

LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Pubnico Harbor ..	Beach point, E. side of entrance, 60 fathoms from low water mark..	43 35 45	65 46 54	One	F	.....	8
Tusket River.....	Big Fish Island, S.W. point	43 42 10	65 57 15	Two, horizontal, 8 yards apart	F	.....	12

BAY OF

Seal Island.....	S. point, $\frac{1}{2}$ of a mile inland	43 23 34	66 0 52	One	F	.....	18
Yarmouth or Cape Forchu	E. Cape, S. point.....	43 47 23	66 9 21	One	Rev	Every minute & 45 seconds....	18
Cape St. Mary...	E. side of bay	44 5 20	66 12 40	One	Rev	Every 30 seconds, red and white alternately	8
Sissiboo	S. side of entrance of river	44 26 30	66 1 15	One	F	.....	13
Brier Island.....	N.W. point	44 14 57	66 23 30	One	F	.....	10
Westport.....	Peters Island, S. entrance to Grand Passage.....	44 15 30	66 20 20	Two, horizontal, 24 feet apart.....	F	.....	13
Boar's Head.....	Boar's Head, 50 feet from edge of cliff	44 24 16	66 13 0	One	Rev	Alternate red & white, flashes every minute	13
Digby or Annapolis	Prim Point, S. point of entrance	44 41 34	65 47 23	One	F	.....	12
Marshall Cove or Port Williams..	S. shore, Bay of Fundy..	44 56 52	65 16 0	Two, vertical, 20 feet apart	F	.....	10
Margaretsville....	do ..	45 2 57	65 4 0	Two	F	.....	8
Black Rock	S. shore.....	45 10 10	64 46 0	One ..	F	.....	12

of the Department of Marine and Fisheries.—*Continued.*—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, white	28	20	1854	Catoptric lights with parabolic reflectors and argand burners	Open westward of St. John's Island, bearing N.E. by N. clears the ledge; making harbor from any other direction, the light must be brought to the Northward of E.N.E. before it can be steered for to avoid shoal spot off St. Ann's Point.
Wood, white, square.....			1864	do	Visible seaward; in windows each end of a dwelling house.

FUNDY.

Octagon, white	98	60	1830	Dioptric 2nd ord	The Blond Rock lies S. by W. 3½ miles from lighthouse; variation in 1869, 16° 48' W. Fog whistle near lighthouse.
Octagon, vertical stripes, red and white	117	59	1839	Catoptric lights with parabolic reflectors and argand burners	Light 1½ minutes, dark ½ minute. Fog whistle on W. side, sounded in fogs or snow storms 10 sec. in every minute.
Octagonal, white.....	103	43	1868	do	Alternate red and white.
White, wood, pyramidal ..	36	33	1870	do	
Octagon, white	92	55	1809	do	Variation in 1869, 17° 45' W. A steam fog whistle has been placed on N. W. of Brier Island, South side of lighthouse.
Square, white	40 each..	15	1830	do	Visible from the northward between the bearings of S. by W. and S.S.W., and from the southward between the bearing of N.E. by E., and N.N.W. ¼ W.
Square, white			1864	do	On the top of a dwelling-house, which is white.
Square, vertical, red and white stripes.....	76	22	1817	do	Variation in 1869, 18° 50' W. Fog whistle on Prim Point; in snow storms and in thick or foggy weather, sounded 8 seconds in each minute, making an interval of 52 seconds between each blast.
Square, white	{ 60 } { 57 }	22	1859	do	Lantern on top of dwelling; lower light in bow window, visible from W.S.W. round N. to E.N.E.
Square, white and black, horizontal.....	{ 30 } { 27 }	22	1859	do	Red light, visible from W.S.W. round North to E.N.E.
Square, white ..	45	35	1848	do	Light on top of dwelling, visible from all points of approach.

LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA

BAY OF FUNDY.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Horton	On bluff, W. side of Avon River	45 6 15	64 13 30	One	F	.....	20
Burnt Coat Head.	Basin of Minas, S. shore.	45 18 40	63 48 30	One	F	.....	13
Spencer's Point...	Spencer Point, N. shore, Cobequid Bay.....	45 23 30	63 37 0	One	F	.....	6
Partridge Island or Parrsboro'	West side of river	45 23 0	64 19 0	One	F	.....	9
Apple River	Cape Capstan or Hetty Point North entrance.	45 28 20	64 51 30	One	F	.....	12

NEW BRUNS

BAY OF FUNDY.

Grindstone	West part of island.....	45 43 13	64 37 25	One	F	.....	12
Enragé	Pitch of cape.....	45 35 34	64 46 53	One	F	.....	15
Quaco	Small rock off head.....	45 19 20	63 31 55	One	F	Every 20 seconds	15
.	{ Partridge Island.....	45 14 20	66 3 20	One	F	.....	20
St. John Harbor..	{ Beacon Tower	45 15 10	66 3 40	One	F	.....	10
Lepreau.....	On point.....	45 3 40	66 27 39	Two, vertical, 9 yards apart.	F	.....	15
S.W. Wolf Island.	On S.E. point of the S.W. island.....	44 56 30	66 41 10	One	Rev	1½ min. between each flash ..	17 (to 20)
Whitehead Bliss Harbor.....	West of Bliss Island.....	45 1 15	66 51 0	One	F	.....	12
Campobello Island	N. point of Head Harbor.	44 57 40	66 54 10	One	F	.....	13
Port St. Andrew..	N. point of entrance	45 4 10	67 2 50	One	F	.....	10

of the Department of Marine and Fisheries.—*Continued.*

—*Continued.*

—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, white	92	20	1851	Catoptric lights with parabolic reflectors and argand burners	Variation in 1869, 20½° W. Light in window.
Square, white	75	35	1859	do ..	On keeper's dwelling; visible from all points of approach.
Window in a building.....	35	20	1863	do ..	
Square, white	37	32	1852	do ..	Lantern on keeper's dwelling.
Oblong, with tower, white.	64	45	1870	do ..	Rebuilt about 160 feet S.S.E. from old one.

WICK.

—*Continued.*

Wood, octagonal, white...	60	.....	1854	Catoptric lights with parabolic reflectors and perforated sun burners	Visible from N.E. by E. round by North to E. by S., or 315°. Cape Enragé Lighthouse, S.W., by W. ½ W. about ten miles. Variation in 1869, 20° 30' W.
White, square	120	23	1840	D. 4th ord.....	Visible between the bearings of N.W. round by South to N.E.
Octagon, horizontal bands, red and white.....	58	46	1835	C	
Octagon, vertical stripes, red and white.....	119	40	1791	C	In foggy weather a steam whistle is sounded every minute for ten seconds. A bell buoy is established near E. side of Partridge Island Reef.
Octagon, vertical stripes, white and red.....	35	15	1828	D. 4th ord.....	Variation in 1869, 19¼° W.
Octagon, striped horizontally red and white	{ 81 } { 53 }	31	1831	Catoptric lights with parabolic reflectors and perforated sun burners.....	Visible between the bearings of W.N.W. and E. by N. from the South. Variation in 1869, 18° 50' W. Fog whistle during fog and snow storms.
Lantern surmounts keeper's dwelling which is a square wooden structure, painted white.....	111	35	1871	C	Visible from all points of approach.
Square, wood, white	45	30	1871	C ..	
Octagon, white with red cross	64	34	1829	do ..	Variation in 1869, 18¼° W.
Octagon, white	42	22	1833	do ..	Visible between the bearings of N.W. by N. and S.E. by S. Variation in 1869, 16¼° W.

LIST of Lights of the Dominion of Canada under the charge

NEW BRUNSWICK

BAY OF FUNDY.

Name of Light.	Place.	Latitude N.]	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Grand Manan Island, N.E. part	Swallow's Tail	44 45 52	66 44 0	One	F	.....	17
Machias Island, two lights	On the island	44 30 7	67 6 13	Two, W. by N. $\frac{1}{2}$ N., and E. by S. $\frac{1}{2}$ S., 56 $\frac{1}{2}$ yards apart	F	.....	15 $\frac{1}{2}$
Gannet Rock	On the rock	44 38	66 47 0	One	F & Fl	A flash for 4 $\frac{1}{2}$ sec.	12

RIVER ST. JOHN.

Green Head .....	.....	45 18	0 66 7 20	One	F	.....	10
Sand Point .....	.....	45 22	0 66 12 0	One	F	.....	10
Oak Point .....	.....	45 32	0 66 6 0	One	F	.....	10
No Man's Friend .....	.....	45 47	0 66 7 30	One	F	.....	10
Oromocto Shoal .....	.....	45 53	0 66 27 0	One	F	.....	10
Wilmot's Bluff .....	.....	45 56	0 66 30 0	One	F	.....	10
Cox's Point	Grand Lake	46 2	0 66 1 0	One	F	.....	10

PROVINCE OF

Race Rocks	On Race Rocks, in Straits of De Fuca	48 17 45	123 32 00	One	Fl.	Every 10 seconds	13
Figard	On a rock, at the entrance to Esquimalt Harbor ...	48 26 00	123 27 15	One	F	.....	12
Fraser River Light Vessel	On South Sand Head, at entrance to Fraser River	49 3 50	123 16 40	One	F	.....	9

of the Department of Marine and Fisheries.—*Continued.*—*Continued.**Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Octagon, wood, white	148	50	1860	Catoptric... ..	Visible between the bearings of S. W. round S. to N. W. Variation in 1869, 17½° W.
White.....	58 E. 54 W.	36 each	1832	One light catoptric, the other dioptric of 2nd order.....	A fog whistle will be erected here next season. A gun is fired every 4 hrs. during a fog. Vessels standing to the northward should haul off the moment the lights are in one to avoid the Merriedges. A gun is fired to answer signals during a fog. Dangerous rocks extend 4 miles eastward of the lighthouse:— Fixed light..... 45 seconds. Eclipse 5½ Flash 4½ Eclipse 5½
Octagon, striped vertically black & white alternately	66	41	1831	D. 4th ord	
					60

NEW BRUNSWICK.

White.....	105	.....	1869	Catoptric.....
White.....	50	.....	1869	do
White.....	50	.....	1869	do
White.....	55	.....	1869	do
White.....	54	.....	1869	do
White.....	104	.....	1869	do
White.....	20	.....	1869	do

BRITISH COLUMBIA.

Circular stone tower, painted with alternate black & white horizontal bands ..	118	105	1861	D. 2nd ord	Variation, 22° 05' East. A fog bell is rung in thick or foggy weather.
Tower white, built of brick, and a red brick dwelling-house .....	.....	.....	1861	D. 4th ord	Shows red in the harbor. Var. 22° 05' E.
Red hull, with ball at the light mast head.....	70	.....	1866	C	Variation, 22° 30' East.

APPENDIX No. 36.

LIST OF LIGHTHOUSES, &c., CONSTRUCTED DURING THE FIVE YEARS, FROM JULY, 1867, to JULY, 1872.

LIGHTS, &c., ABOVE MONTREAL.

Wade Shoal, Ottawa River	Middle Island, Lake Erie.
Point L'Original do	Port Maitland (rebuilt).
McTavish Point do	Michael's Point, Lake Huron.
Coteau du Lac (beacon).	Parry Sound, Georgian Bay.
Pigeon Island, Lake Ontario.	Lonely Island, do
Salmon or Wicked Point.	Sulphur Island, do
Telegraph Island, Bay of Quinté.	Michipicoten Island, Lake Superior.
Fox Island, Lake Simcoe.	do Harbor do

Two piers have been erected at Point Claire and two piers at Lancaster Bar; and on one of the piers at Point Claire a Lighthouse was erected, and on one of the piers at Lancaster Bar another.

Lighthouses, &c., are under contract at the following points:—

Porphyry Point, Lake Superior.	3 Beacon Lights, Ottawa River, above Ottawa.
Sandy Island, do	1 Pier and Lighthouse at Point aux Anglais,
Point aux Pins.	Ottawa River.
Owen Sound, Georgian Bay.	Hamilton Island, near Summerstown.
Mississauga Straits, Lake Huron.	Burnthouse Point, do
Windmill Point, Prescott.	

LIGHTS BETWEEN QUEBEC AND MONTREAL.

Isle St. Therese.	Batiscan (2 lights, rebuilt).
Isle de Grace.	Isle aux Raisins (rebuilt).
Lotbiniere (2 lights).	Repentigny (rebuilt).
Pointe au Citronille (temporary).	

Lighthouses are under contract at the following points on the Richelieu River above St. John's:—

North of Halfway Point (2 lights).	Lacolle (2 lights).
St. Valentine (2 lights).	

LIGHTS, &c., RIVER AND GULF OF ST. LAWRENCE BELOW QUEBEC.

Cape Norman.	Seven Islands.
Point Rich.	Lark Islet.
Cape Ray.	Egg Island.
Bird Rocks.	Cape Chatte.
Amherst Island.	Red Island Reef Lightship.
Paspebiac.	Point St. Lawrence, Island of Orleans.
Carleton Point.	Monte du Lac.
Sandy Beach Point Lightship.	South Traverse Lightship.
South Point, Anticosti.	Manicouagan Lightship.
Cape Magdalen.	

Powerful steam fog-whistles have been erected at South Point, Anticosti, and Red Island Lightship, and in new lightship for Manicouagan Shoals.

Lighthouses are under contract at the following points :—

Macquereau Point.	Port Neuf.
Matane.	Cape Despair.
Magdalen Islands.	Point Prairie.
Gaspé Point.	

Fog-whistles are under contract for the following places :—

Cape Ray.	Gaspé Point.
Magdalen Islands.	

LIGHTS IN NEW BRUNSWICK.

Machias Seal Island (rebuilt).	Shippegan.
S. W. Wolf Island, Bay of Fundy.	Tracadie.
Whitehead, Bliss Harbor.	Portage Island, Miramichi.
Greenhead, River St. John.	Fox Island (two beacons), Miramichi.
Sandpoint, do	Oakpoint do do
Oakpoint, do	Grant's Beach do do
No Man's Friend, do	Preston Beach do do
Oromocto Shoal, do	Cassie's Point.
Wilmot's Bluff, do	Shediac (2 beacons).
Cox's Point, Grand Lake, Queen's Co.	Cape Jourimain.
Dalhousie.	New dioptric light put in Escuminac Light-house.
Bathurst (2 beacons).	
Caraquet.	

A powerful steam fog-whistle erected at Point Lepreau.

Lighthouses, &c., are under contract at the following points :—

Cape Spencer.	Grand Lake (2 lights).
Tabusintac.	Lightship, Miramichi.
Neguac.	

Fog-whistles are under contract at the following points :—

Miscou Point.	Machias Seal Island.
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LIGHTS IN NOVA SCOTIA.

Pugwash.	Chebucto Head.
Caribou Island (built in 1867 and 1868).	Peggy's Point (built in 1867).
Pomquet, St. George's Bay do	Mahone Bay.
Cheticamp.	Chester, Mahone Bay (rebuilt).
Ingonish.	Moser's Island (built in 1867).
St. Ann's Harbor.	Port Hebert.
Black Rock Point (built in 1867 and 1868.)	Negro Island.
Main-à-dieu.	Carter's Island.
Sydney Harbor.	Seal Island (rebuilt).
Canso Harbor.	Cape St. Mary (built in 1867 and 1868.)
Jerseyman's Island.	Siasiboo.
Point Tupper.	Apple River (rebuilt).
Country Harbor.	East end, Sable Island.
Liscomb.	

Powerful steam fog-whistles have been erected at the following points :—

Cape Forchu, Yarmouth.	St. Paul's Island.
Seal Island.	Digby.
Cranberry Island.	Sable Island.

Lighthouses and steam Fog-Whistles are under contract at the following points :—

Green Island.	Brier Island Fog-Whistle.
Wallace Harbor.	Walton Harbor.
Port Mouton.	Wesse's Ledge, Barrington (beacon re-building).
West Arichat.	Protection to Parrsboro' Light and Bar.
Shelburne Harbor.	Yarmouth (beacon).
Bras d'Or Lake (2 lights).	Halifax Harbor (iron lightship with steam fog whistle).
Sable Island (one lighthouse and one fog-whistle).	

Number of Lighthouses in operation on 1st July, 1867	186
Number constructed during the five years from July, 1867, to July, 1872	93
Number of Fog-Whistles constructed during last-named period..	10
do Lightships do do ..	4
do Piers do do ..	3
Number of Lighthouses and Light Beacons in course of con- struction	43
Number of Fog-Whistles in course of construction	8
do Lightships do 	2

WM. SMITH,

Deputy of Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st January, 1873.

APPENDIX No. 37.

REPORT OF A COMMITTEE OF THE TRINITY HOUSE, LONDON, TO THAT CORPORATION, ON THE FOG SIGNALS AND LIGHTHOUSES OF CANADA AND OF THE UNITED STATES OF AMERICA, 1872.

August 16th.—A Committee, consisting of Sir Frederick Arrow, Deputy-Master, and Captain J. Sidney Webb, accompanied by Mr. Edwards, the Deputy-Master's private secretary, embarked on board the Allan steamship *Moravian* for Quebec, with the object of examining fog-signals in use in Canada and America, and obtaining information as to their power and efficiency; intending also to acquaint themselves incidentally, as far as time would allow, with the working of the lighthouse system in the two countries.

On the outward voyage, as the ship neared the Straits of Belle Isle, she was detained standing off and on by the lead, with only occasional glimpses of Cape Bauld, for 24 hours, during which time the gun on Belle Isle was heard at a distance of between 5 and 6 miles, the wind light from S.E. When the fog lifted, the vessel proceeded through the Straits, which were full of ice in the lower part, into the Gulf of St. Lawrence, the Committee observing the various lights on both sides, which were very efficient; entered the river at daylight, and arrived at Quebec, at 8.30 in the evening of Monday, the 26th August.

27th August.—On arrival at Quebec the Committee were received very kindly by Mr. Wm. Smith, the Deputy-Minister of Marine and Fisheries, who came officially from Ottawa to meet them. The Governor General of the Dominion being at the time in Quebec, the Committee had the honour of attending to pay their respects to his Excellency in the afternoon, and were very cordially received. Arrangements were afterwards made for proceeding down the St. Lawrence in the lighthouse steamer next morning.

28th August.—The Committee, accompanied by Mr. Smith, embarked on board the *Napoleon III.*, a powerful iron screw steamer, 300 horse-power, 494 gross tonnage, 212 tons register, built by Messrs. Napier, of Glasgow. She is designed for and wholly employed in light and buoy service, with proper fittings for the latter, is comfortably fitted up, and fairly commodious. The Captain, M. Gourdeau, a French-Canadian, is a quiet intelligent man, thoroughly conversant with the duties of his service. Steamed down the Lawrence towards the Manicouagan Shoal, 200 miles from Quebec, to guard which a light-vessel with a steam-whistle had quite recently been placed. At night the various lights on the shores of the river were seen, all of which showed well and brilliantly, the weather being favourable for observation.

29th August.—At 7 a.m. arrived alongside the Manicouagan light-vessel; weather calm and fine. She is painted black, name on the stern, built of iron, of about 150 tons, by Richardson, Duck & Co., of Stockton-on-Tees; is well found in all essentials, is two-masted, has a steam-whistle, and a steam-windlass of considerable power, rides with a 2½ ton mushroom, and can veer to 300 fathoms of 1 ½-in. cable. Her two lights, carried one at each masthead, are small 6th order dioptric, but instead of using lanterns fitted round the masts, each apparatus is enclosed in a small lantern, which is suspended by a chain from a centre ring in the lantern, and steadied by guys to keep clear of the masts. If either light should require trimming during the night it must be lowered on deck for the purpose. The oil burnt is petroleum, in an ordinary mineral-oil burner. The crew of the light-vessel consists of the master, mate, engineer, and 6 seamen, all of whom remain on board during the season (from June to December) without relief. The vessel was placed by the master, acting upon general instructions given him, according to his own judgment.

The steam-whistle is placed amidships, at an elevation of 25 feet above the water-line. The apparatus consists of multitubular boiler, 10 feet long, 3 feet 7½ inches diameter,

with a working pressure of 65 lbs. of steam, ordinarily consuming about 30 lbs. of fuel per hour, in this case all wood. The boiler supplies steam to three small engines; one, the feed, for pumping into the boiler, and for condensing purposes; one for regulating the blasts; and third for the windlass. The cup or bell of the whistle is 10 inches diameter, and 1 foot 6 inches high; the space between the lower part of the cup and the adit of steam being 3 inches: this was altered, as an experiment at first, to $1\frac{1}{4}$ inch; but it subsequently proved that a space of 3 inches was much more effective—and was so continued during the trials. Distinctive character is attained by giving one blast of 8 secs.' duration, an interval of 8 secs., another blast of 8 secs., and an interval of 36 secs., thus completing the minute. There is no duplicate apparatus. The dimensions of the engine-room are 25 feet 9 inches in length by 12 feet in breadth between the coal-bunkers, each 3 feet 11 inches deep. Draught provided from an iron funnel about 20 feet in height; the draught at the time of the visit being very defective, owing to the light weather.

When steam was up, a programme was arranged that the whistle should be kept going until the *Napoleon*, steaming out to windward, was out of sight; but finding that at $3\frac{1}{2}$ miles the sound was barely audible steamed back to the light-ship and altered the whistle to its original 3-inches space as before described, then steamed out again to windward with the following results. With the engines going and the wind (southerly) at force 3 to 4, weather clear, the sound was heard distinctly at $3\frac{1}{2}$ miles. Steamed on and stopped at 5 miles, the sound was distinct and good. At 6 miles the sound was still good; at 7, 8, 9, 10, and 11 miles, the sound was heard gradually decreasing in strength, and at 12 miles it was only just audible. The distances were measured by time and by the patent log, the steamer stopping at each mile. The thermometer stood at 60° and the barometer at 30 inches during the trials.

The vessel then proceeded to Father Point, Rimouski, on the South shore of the St. Lawrence, where a lighthouse, pilot station, and telegraph office are situated. The Committee, with Mr. Smith, visited the lighthouse, and were received by the keeper, who also works the telegraph. He employs a man to act as his assistant-keeper, but he alone is recognised by the Marine Department as their servant: he remunerates the assistant on his own terms, drawing pay himself for the sole charge. The tower of this lighthouse is square, built of wood, and contains several rooms, in which the keeper and his family reside. The approach to the lantern is through a small trap door, as is sometimes the case in old fashioned lighthouses. The light is fixed, white, catoptric, illuminating 180° , shown from sunset to sunrise, during the season of navigation. The illuminant is petroleum, the apparatus consisting of flat-wicked burners, with 12-inch reflectors, the latter much scratched. The light is, however, very efficient, for subsequently, at a distance of 17 miles, the Committee observed it showing well and bright. Attached to this establishment is a fog-gun, which is fired only in answer to vessels endeavouring to make the point in foggy weather.

In the evening the Committee visited a lighthouse on Biequette Island, one of the numerous islands in the St. Lawrence, and were received by the keeper, who, having lit the lamps, had left them burning and was in his house with his family. The tower is constructed of brick and stone, clap-boarded to prevent the action of the long protracted frosts of winter. The light, 112 feet above high water, is white, revolving catoptric, illuminating the whole circle, with 3 faces of 7 lamps to each; the oil is the usual petroleum. The lantern, 13 feet diameter, clean, and well ventilated by lit or miss valves at top and bottom. The lamps were burning well at the established height, and everything was clean and in good order. A nine-pounder gun is attached to this establishment, fired every half-hour in foggy weather; the light itself showed well from afloat.

30th August.—Weighed anchor at 5 a.m. and proceeded for the light-vessel placed on the tail of the Red Island Reef, a clean, smart-looking craft, built of iron and painted red, with her name on the sides; her decks lumbered with wood for fuel for the steam-engine of the fog-whistle. The light is catoptric, placed in a lantern fitted round the mast, but with only six lamps in 14-inch reflectors to cover the circle. The lamps, argand, adapted for petroleum, appeared to be in good order. The light is shown at the

height of 23 feet above high water. The vessel rides to two mooring anchors, with a bridle between them and 180 fathoms of $1\frac{1}{2}$ -inch cable. The crew consists of the master, under him an engineer for the fog-signal, and 6 seamen, one of whom acts as fireman. They all remain on board for the season.

The engine-room for the fog-signal is a space of 24 feet long by 11 feet 7 inches broad, and the full depth of the vessel. The fog-signal steam-whistle is similar in arrangement to that of the Manicouagan light-vessel, except that it is 17 ft. instead of 25 ft. above the water line. The distinctive blast is one of 10 seconds each minute. The average period in the entire season during which it has been at work is said to be two months. In the late summer and fall of the year, when fog most prevails, the fires are kept forward to be in readiness when wanted. The Committee were informed that the longest consecutive period during which the whistle has been continuously sounded was six days, and that it worked well the whole time.

Having completed the inspection, instructions were given to the master that, as soon as steam was up (which took two hours, everything being cold), the whistle should be kept going until the steamer was out of sight. At 10.30, wind E., force 4, cloudy, ther. 59, bar. 29.75, steamed out to windward, and with engines going, heard the signal distinctly for $3\frac{1}{2}$ miles. Stopped at 4 miles, and heard it plainly; stopped at 5 miles, sound still distinct but faint; at 6 miles sound quite audible, but very faint. Steamed on to 9 miles and stopped, and could just make out the sound. The steamer then turned and ran past the light vessel across the wind towards the River Saguenay. At 3 miles the sound was heard very distinctly, and at 5 miles still very plainly without stopping the engines. At the mouth of the Saguenay, a distance from the light-vessel of about 8 miles, with the wind athwart, stopped and heard the sound, weaker but still distinct. On coming out of the Saguenay, the steamer proceeded to leeward, and carried the sound distinctly, with the engines going, to about 6 miles. Stopped at Red Island lighthouse, rather more than 6 miles to leeward, and found the sound very effective. The Committee landed at the lighthouse, which was in charge of a young woman; the keeper, her husband, being away. The tower of stone, white; the dwellings apart from it. The light red, fixed, catoptric, with 24 lamps and reflectors, illuminating the whole circle, by Wilkins & Co., London. A maidservant was cleaning the reflectors when the Committee went into the lantern. The lamps are adapted for petroleum, with single flat wicks; the lantern, 12 feet in diameter is ventilated by hit or miss valves at top and bottom. There is only one keeper; he is assisted by his wife and the maidservant, and the whole place is scrupulously clean and in good order. The petroleum is kept in cisterns in a wooden out-house about 80 yards from the lighthouse. Re-embarked and proceeded up the river; anchored for the night off the Pilgrims. Weather very bad all night, strong gale from eastward with hail, rain and squalls.

31st August.—Strong easterly gale, with rain. Proceeded up the river and arrived at Quebec at 3 p.m.; landed, and at once embarked on the river steamer for Montreal. In the evening the Committee were allowed to go into the pilot-house, and were able to observe the lights on the river banks. The system of leading lights for this portion of the St. Lawrence River, which enables vessels to make night passages in safety, is carried to a much greater extent than in any place in England; the shoal places are very frequent with sudden changes, and a light, which in conjunction with another, clears one obstacle, is used with a third for a different line of bearing to clear another.

1st September.—Sunday at Montreal.

2nd September.—The Committee visited the Trinity House of Montreal and received various gentlemen connected with that body, a Corporation performing duties in many respects similar to our own, but under a different constitution.

A visit was then paid to the manufactory of Messrs. Chanteloup & Co., lamp-makers to the Marine Department of the Dominion. The firm are merely constructors, not designers, and they work entirely according to drawings and specifications furnished to them by the authorities. The pattern upon which their 21-inch reflector is made is of a parabolic curve, differing in parameter from that in use in England, but more nearly ap-

proaching that adopted in Scotland. Those seen here appeared of good make, and filled well when a light was placed in focus. The miscellaneous items of apparatus did not present any object for special notice, except in the contrivance of reservoirs for petroleum lamps. These were shallow and broad, so as to make the alteration of level by consumption as gradual as possible, the bottom being nearly true to the level required in the burner, and the flow being carried through a single pipe without any bird fountain or regulator. A piece of cylindrical perforated copper—to admit the air—forms the lower half of the burner, the bottom being finished with a cup screwed on to prevent leakage, a neat substitute for the common dripper. An example of this lamp was ordered to be sent to the Trinity House, London.

Here also was a catoptric revolving apparatus for one of the lighthouses on Sable Island (the other, dioptric, is to have a Doty lamp); it was designed to show 14 reflectors on a face, and to revolve once in three minutes.

After inspecting a small local light which marks the entrance to the harbour, the Committee were hospitably entertained by the Mayor in the evening.

3rd September.—Committee left Montreal for Portland, Maine, U. S., to keep their engagement to meet Professor Henry and other members of the United States Lighthouse Board. Travelled most of the day and all night, and arrived at Portland early.

On 4th September.—Professor Henry called soon after, very kindly, to ascertain what arrangements would suit the Committee, when it was agreed to commence the experiments with fog-signals in Portland Harbour on the following morning. The British Consul, Mr. Murray, and three members of the Lighthouse Board,—Professor Henry (Chairman), Admiral T. Bailey, U. S. Navy, and Major George H. Elliot, U. S. Army (Engineer Secretary)—visited the Committee officially during the day.

5th September.—At 10 a.m. the Committee, accompanied by Professor Henry, Admiral Bailey, Major Elliot, General Duane, U.S. Engineers, and Commander Selfridge, U.S. Navy, the two latter being respectively Engineer and Inspector of the 1st Lighthouse District, together with some gentlemen interested in the various signals under trial, embarked on board the lighthouse steamship *Myrtle*, and steamed out into the harbour, or rather into Casco Bay, which extends for many miles thickly interspersed with islands. The instruments chosen for experiment and stationed at Fort Scammell on House Island about three miles east of the town of Portland, and at an elevation of about 15 feet above sea level, were as follows:—

- (1) A Daboll horn, worked by caloric engine with 24-inch cylinder.
- (2) A Daboll horn, worked by steam, with 32-inch cylinder.
- (3) A 12-inch steam-whistle.
- (4) A steam Siren.
- (5) An 18-inch steam-whistle.

It was arranged that the instruments, which were not tuned in unison, should be all sounded together, leaving the observers, to pick one from the other; the Committee having first made a close examination of the several instruments, of which detailed drawings have also been obtained. With the wind south-easterly, force 4, weather warm and fine, the vessel steamed out to windward, and at 6 miles all the instruments were heard distinctly. At 8 miles the 18-inch whistle, and the siren in rather less degree, predominated, but at 9 miles the large Daboll horn was superior, and particularly clear. At the same distance, with a low-lying island, however, intervening, the 18-inch whistle was again superior, although all the instruments were severally heard. The steam whistle on Cape Elizabeth, outside of the harbour, distant 6 miles, and with the wind at right-angles to the projection of the sound, was heard distinctly. On returning to Fort Scammell, approaching the side of the island away from the signals, the five sounds grew gradually louder, more separated and more distinct, until the steamer arrived under the higher part of it, an elevation of about 80 feet above sea level, when, at $1\frac{1}{2}$ mile distance, all sounds were lost. This was owing to the shadow produced by the intervening land. Going farther away, the sound was again audible. Professor Henry attributes this to the Sound Wave deflecting both vertically and laterally from the obstruction, and he proposes

to investigate the subject carefully as opportunity may offer. After testing the sound in various directions to Cape Elizabeth, a distance of 6 to 7 miles to the southward, and to Halfway Rock, about ten miles to the eastward, beyond which it was not considered that any useful data could be procured, the steamer returned to the moorings.

The Daboll horn, with steam-engine, consumes 12 lbs. of coal per hour. The 12-inch whistle consumes 50 lbs. anthracite coal per hour, and evaporates about 5 cubic feet of water per hour, working with 55 lbs. pressure. The 18-inch whistle consumes about 60 lbs. anthracite an hour, evaporates $7\frac{1}{2}$ cubic feet of water, and works with 60 lbs. pressure. The siren, which makes 2,800 revolutions per minute, is worked at a pressure of 50 lbs., and consumes coal and water in same ratio as the 12-inch whistle. Professor Henry, in mentioning some experiments that he had made, observed that the sound of the whistle was only that of a resonant cavity, and instanced his having made bells of wood. He considered also that the volume of sound emitted by any such instrument is nearly proportional to the power employed in producing it.

6th September.—At 10.30, accompanying the same gentlemen, the Committee again embarked on the Lighthouse Board steamer, and proceeded to Fort Scammell, to pursue the experiments as arranged previously, the first being to ascertain what assistance a trumpet-shaped wooden case would give to the steam whistle. The whistle, 8 inches in diameter, was attached by a flexible tube to the steam-pipe, and moveable at pleasure. The trumpet was a case made of rough boards, 4 sided, its dimensions were 2 feet by 2 feet at one end, 10 feet by 10 feet at the other, and 20 feet long. To test the effect of this, the vessel took up a position 2 miles off down wind, while the whistle was placed alternately in the axis of this projector, and then outside of it. When placed in the axis it was heard better than independently of it, and there was a corresponding loss when the whistle was removed from the projector.

The second experiment was with a 10-inch whistle, and was intended to try again the effect of the sound shadow, described yesterday, with diminished distance and lower power. At the distance of half a mile, in hazy or slightly foggy atmosphere, and with engines stopped, the sound of the whistle was barely audible; but on opening out each end of the island from the high land, the sound grew louder until quite clear. This was again tried at a longer range with another island, named Bangs Island, intervening; and with the like results. Your Committee would thereupon submit as an essential principle that, in selecting the site for a Fog-signal, care must be taken that no outlying point or cliff shall interfere with the arc of sound.

The necessity for such signals on this foggy coast was aptly demonstrated by the setting in of a thick fog while we were some few miles outside of the harbour, the wind being light from S.S.E. The fog-signal at Portland Head was thereby at once brought under practical observation. The auxiliary signal, a large bell, heard distinctly at 2 miles, was set ringing until steam was up, after which, while steaming out two or three miles to windward, the whistle was plainly heard. That on Cape Elizabeth, six miles off, to windward, was not audible; but General Dnane asserted that had the wind been more from the eastward, that signal would have been heard. His experience led to the conclusion that on that coast an easterly wind is the best aid for fog-signals. During the trials a gong-whistle was tested, which is simply two resonant chambers, one above, the other below, the same steam blowing both; but this instrument was evidently not perfected.

The Bay being full of islands, it unfortunately became impossible, from the density of the fog, to pursue further trials of the signals without serious risk. The chance of obstruction by intervening land would also tend to baffle experiment; so that it was determined to desist for that night.

7th September.—Fog continued so thick that further proposed sea experiments were given up, and the committee went on to Boston, having arranged with Professor Henry to meet him at Newport, Rhode Island, on Thursday, 11th September, to accompany him, at his express wish, in the lighthouse steamer through the 3rd District to New York, to visit the lights and signals of Long Island Sound, and the establishment at

Staten Island. At this period of the journey it had been originally intended to proceed to St. John's, New Brunswick, Halifax, and Cape Race; but the Committee being informed that the Fog-signal which they had hoped to inspect on the last named point was not in position, but was lying—not yet put together—at St. John's, they did not feel justified in incurring the expense of a journey merely to visit the Partridge Island signal, as they would have the opportunity of seeing the land signals of the States.

11th September.—Arrived at Newport. Professor Henry, however, was detained, and did not arrive until late the following day.

13th September.—Committee, accompanying Professor Henry and General Woodruff, the Engineer in charge of 3rd and 4th Districts, embarked on board the *Mistletoe* paddle steamer at 10 a.m., and proceeded up Narragansett Bay to Providence; they were struck with the number of lights and signals about the coast: the weather was so bad that little landing could be effected, but they visited a 6th order dioptric light at Newport Harbour, which was clean and well kept; the light-keeper, an old widow, assisted by her daughter, the latter doing most of the work. Here lard oil was the illuminant.

14th September.—Started at daylight for Long Island Sound, passed Point Judith, the outer south point of Narragansett Bay, through Block Island and Fisher's Island Sounds into the eastern entrance of Long Island Sound. The Committee, with Professor Henry and General Woodruff, landed at the Lighthouse station on Little Gull Island, considered to be one of their best establishments. The tower, lately rebuilt of stone, the keeper's dwelling, a three-storied house of wood, and two outhouses for the fog-signal apparatus, compose the establishment. The light, fixed white, is shown from a 2nd order dioptric apparatus, and the lens, lamp, and oil cisterns were in good order: but in details of construction there were points of difference from our own system which tell, as your Committee believe, in our favour. With us the tower is kept free and well ventilated, but here that provision is not considered important: the tower at this station is lined with brick, leaving only sufficient room for an iron staircase, self-supporting; damp and corrosion doing much mischief.

There are a keeper and two assistants, all with their families living on the island. The principal keeper receives \$680, or £136 per annum (liberal pay, according to our ideas, but he was dissatisfied with it); his assistant for the light receives \$400, or £80, and the other assistant, who is a machinist, and attends to the fog-signal apparatus, has \$600, or £120 per annum. The signal, a siren trumpet, is in duplicate, each with boiler and apparatus complete, in separate buildings. One of the boilers is set in brick, and has a large brick shaft; the other partly felted over, is bedded in concrete and has an iron chimney. The brick-set boiler keeps steam best. Each boiler is furnished with what is called a heater, by which the water is kept partially warm, to expedite getting up steam. The Committee obtained a drawing of this arrangement. In anticipation of fog, the heater had been in use since the previous evening in one boiler, and it consequently took only 22 minutes to get steam up to the necessary pressure of 40 lbs. for the trumpet to commence working, the fire being laid with wood, anthracite coal, cotton waste, and oil. These instruments were somewhat different from that put up for the experiments at Portland, one small engine doing all the work: the throttle-valve being closed by the action of a weight instead of by a separate engine working it automatically, as at Portland. The feed-pumps appeared to be very small, but it was stated that they were effective, and are a specialty in the States. The Committee were informed by the principal keeper that the consumption of coal, working at 55 lbs. pressure, was fully 100 lbs. per hour, and that no repairs had been needed more than he himself could put right since February, 1871, when the signal was put up, a period of twenty months. He also stated that in time of fog the watches were arranged as follows: he himself took charge of both light and signal until midnight, then called the light assistant to the lantern and the machinist to the fog-signal, where, if fog continued, the latter must stay till next lighting-up time, except when relieved for meals. The water at this station is all obtained by rain catch, roof and terrace being arranged for it, and stored in cisterns holding 20,000 gallons, besides 8,000 for the dwellings, and they have always had more than enough.

With the signal going, the *Mistletoe* steamed away dead to windward for Bartlett's Reef Light-vessel, distant five miles, and at less than two miles, wind force 4, paddles going, lost the sound. As the light-vessel paddles stopped, the signal was heard plainly. The musical note of this signal is said to be G.

The Committee went on board the light-vessel, moored in 12 fathoms, with a bridge and two 1-ton mushrooms, to which she was then riding with 45 fathoms of 1½-inch cable, secured to a riding bitt and nothing to veer on it. She had one spare anchor on board; her measurement 170 tons, length 80 feet, beam 22 feet, depth of hold 10 feet. She exhibits two lights (fixed white), each consisting of eight argand lamps, burning lard-oil, with 12-inch reflectors; the latter in indifferent condition.

The Committee returned to the steamer, which then proceeded for New London, Connecticut, and spent there the 15th September, Sunday.

16th September.—Weather unpromising; wind strong from N.E. A project to visit the Montauk Lighthouse, a 1st-class light on the seaward point of Long Island Sound, had to be abandoned, the boat of the steamer being unfit for landing at the station in bad weather.

Proceeding up Long Island Sound, the Committee observed the preparations for erecting a new lighthouse on the Race Rocks, estimated to cost about 300,000 dollars, or £60,000 sterling. The foundation is formed artificially on the *pierre perdue* principle, called in America a rip-rap; a construction very common on rough or deep sandy bottoms, and of which there are many instances in the numerous lighthouses in this locality.

In the afternoon the Committee landed at the Execution Rocks, where there is a lighthouse, and a 3rd-class Daboll trumpet worked by a caloric engine. This is placed on the second floor of the lighthouse tower, and is in duplicate. The engine worked at 8 lbs. pressure, consumes 10 lbs. of coal per hour, and generally takes three-quarters of an hour to get up heat, during which interval a hand-trumpet is worked. The keeper informed the Committee that the horn had been heard 15 miles with the wind. He has six spare reeds in store; but he states that each give different notes, and he has no instructions as to the reed being tuned to any particular note. Since the signal has been established it has never been out of order. The apparatus was generally very similar to those in England, but hardly in such good condition.

The light is fixed white, showing all round the circle, the instrument dioptric, of the 4th order, by Lepaute. The apparatus apparently, was originally adapted for some other station, as a small section of the circle is left out,—probably for the feed-pipe; the gap is not, however, considered of sufficient importance to demand rectification. The lamp was a small single wick one, burning lard-oil—the cistern being on the top of the apparatus to utilise the heat from the chimney so as to prevent congelation in winter. Hit or miss valves below the glazing ventilate the lantern, and the sash-bars in this and nearly every other lighthouse lantern visited were vertical, no attempt whatever being made to prevent the obstruction of light; indeed they look upon any provision for avoiding such loss of light as a rather unnecessary refinement. Three keepers are appointed to this establishment, one principal and two assistants, one of the latter being the principal's wife.

This lighthouse is built on the rip-rap foundation described above, and seems very solid.

The steamer then proceeded for New York, and arrived at the Central Depot of the U. S. Lighthouse Department at Staten Island late in the evening.

17th September.—Accompanied by Professor Henry, General Woodruff, and Commodore Strong (the Naval Inspector), the Committee minutely inspected the whole depot, which, being the principal one in the States, was closely akin to that at Blackwall in England. The oil store was first visited, which is capable of holding 109,000 gallons, and contains 5 large iron tanks, each by itself in an arched-roof compartment. When the oil (lard-oil, as already stated) arrives in casks from the Contractor, each cask is placed on a skid, and the oil started into a fine sieve on an inclined place which leads to a reservoir,

from whence it is pumped into the tanks by a small steam-engine. The oil appeared to be very clear and bright, but it congeals at a comparatively high temperature. The cost of this year's oil is 94 cents a gallon, about 3s. 7d. of our money.

The Committee then went into various storerooms, ranged on four storeys, one above another, where large quantities of all articles required for light establishments are kept.

In the lighting apparatus department, which was next visited, there are the necessary conveniences for setting up lenticular apparatus, but no provision is made for testing the accuracy of the adjustments, for which they rely implicitly on the maker. The Committee suggested to the officers the means of doing this if they should so desire. In one of the two experimental rooms is a Bunsen's photometer, shaped thus **Y**, the light to be tested being placed in the middle, with a test candle at each of the three ends, so that three observers may test the same light simultaneously. An ingenious and convenient arrangement for moving the oil-testing lamps from room to room is adopted. Ordinarily they are kept in a side room, in which there is a small tramway with turntables at each corner; this tram communicates with the experimental room, and the lamps can be run along from the side room on to the photometer. The testing lamps are argand, small single wick, as in England. Mr. Funck, the foreman of this department, was introduced to the Committee, and explained the principle of his float lamp, which is in general use for all the American lights, and appears to be specially adapted for burning lard-oil. One in which the float worked in a glass cylinder very clearly demonstrated the principle; it worked admirably, and, in the opinion of the Committee, may be utilized for mineral oil. The lamp is patented in America and Germany. The flame produced was bright, pretty steady, and about two inches high; but the draught not being good at the time, the lamp did not give its best results. The burner itself is made of sheet tin; which Mr. Funck says never gets burnt or corroded, and whereon verdigris is not produced as in the brass burners. A great objection to the Funck lamp is in the size of the float cylinder, which obstructs the light in two directions; the Committee suggested a means of lessening this disadvantage, but the loss of light was not considered of great importance.

In passing through to the workshop, the Committee observed considerable quantities of spare apparatus, tubes, and other lamp accessories in store. The shop was well fitted with lathes, punches, planes, shearers, &c., &c.; and a staff of skilled workmen appear to be fully employed in making various fittings for lighting apparatus, lamps, &c. In the blacksmith's shop they were making and repairing iron fittings, required in the light and buoy services, and patching some large iron buoys.

On the wharf lay a large stock of mushrooms, sinkers, &c., with some few large iron buoys, but no reserve of duplicates. There were many mast buoys of various lengths, from 40 feet downwards, which are simply spars, attached to large blocks of granite, by a double eye, one bolted on the heel of the spar, the other to a bolt running through and clinched to the stone.

The engineering department, including supply and repair of all light apparatus and fog signals, is entirely under the management of General Woodruff, the engineer officer of the district; but Comodore Strong, as inspector, has the authority in regard to the discipline of the service, so far as discipline is enforced, the floating light and buoy service, the delivery of stores and supplies to and inspection of the district, together with the purchase of oil and lighting stores generally. The duties of each gentleman are well defined, each quite independent of the other; each has half of the office accommodation, and storehouses, and his own staff of clerks, and conducts his own correspondence; the whole establishment is of a costly character, and must require a considerable amount annually for its maintenance.

18th September.—Started for Ottawa, General Woodruff kindly accompanying us in the *Mistletoe* up the Hudson to Albany.

19th September.—Went on by rail and steamboat on Lake Champlain, seeing many of the season lights en route; reached Montreal at midnight.

20th September.—Late in the evening arrived at Ottawa by the river steamer from Montreal; several small lights having been recently placed on the banks of the Ottawa river, by the Marine Department of Canada, which, according to the captains of the Ottawa steamers, have proved exceedingly useful. Mr. Smith, with his accustomed kindness, met the Committee, and went with them to the hotel.

21st September.—The Committee visited the Marine Department, and spent a considerable time in receiving information as to the mode in which the business was carried on, and on various points in regard to Fog-signals and the burning of mineral oil.

22nd September.—Sunday at Ottawa.

23rd September.—The Committee again met Mr. Smith at his office, and spent several hours in looking over papers, copies of some of which, relating to Captain Doty's communications with the Canadian authorities as to his mineral oil burners, were, by Mr. Smith's kind permission, taken. They are only interesting as affording evidence that the preposterous demands made by Captain Doty for the use of his invention in Great Britain have not been advanced in Canada or the States, his agents or manufacturers, Messrs. Barbier and Fenestre, offering the lamps both to the Ottawa and Washington authorities, at a price per burner, a principle which the Elder Brethren have themselves recommended as the only one upon which the Lighthouse authorities ought to deal with him.

There were here two Doty lamps burning on trial, one of which was intended for the light at one end of Sable Island; but their performance was very unsatisfactory, with low smoky flames, and the foreman lamp-maker could get no better result. In an untrained light-keeper's hands but little success would probably be obtained, which goes to prove the necessity, already referred to, of having a well trained staff before refinements in practice can be adopted.

In return for so many good offices, your Committee took pains to impart to Mr. Smith an insight into the working of the English lighthouse system, concerning which he was very desirous of obtaining information.

24th September.—Started *en route* for London, Ontario, furnished with introductions from the Marine Department, to visit the petroleum refineries situated there—as well as the oil wells at Petrolia. Part of the journey was made through Lake Ontario by night, and from the deck of the lake steamer *Passport*, the Committee had an opportunity of observing some of the lights on both shores. Pigeon Island Lighthouse (Canadian) was passed some time after sunset, when it was nearly dark; but the light, white revolving, was not shown while the steamer was within range. The outer Drake or False Ducks fixed white light, catoptric (Canadian) was also observed, clear and strong at a distance of 15 miles; as well as the revolving light on Point Peter, distant 15 miles. The strength and efficiency of these lights, and indeed of all the lights under the management of the Canadian Marine Department, struck the Committee forcibly, as indicating the high value of their illuminant.

25th September.—At Toronto.

26th September.—At Hamilton; and the Committee here made a deviation from their journey to allow them to visit the Falls of Niagara.

30th September.—Returned to Hamilton and resumed the direct road to the oil springs; arrived at London in the afternoon, and proceeded to call upon Messrs. Fitzgerald, of the Union Mineral Oil Company, who are the contractors for this year's supply of petroleum for the Canadian lighthouses. Shortly after arriving at the refinery the Committee were introduced to Mr. Fitzgerald, who thereupon proposed to show them the entire process of refining. Gladly accepting the offer, under the kind guidance of their host, they obtained much valuable information, and they have submitted full details of what they saw, in a separate paper, in the hope that it may prove interesting to the Elder Brethren.

The following few facts may be of practical use:—

The flashing point of this oil is regulated as nearly as possible at the still; but Mr. Fitzgerald informed the Committee that no very accurate standard can be attained, and that almost every batch varies somewhat in this respect; purity in colour and smell is

obtained as far as possible, but the only safe tests are the specific gravity and the flashing point. In respect of smell Canadian oil is at a disadvantage, as it contains a quantity of sulphuretted hydrogen, which is not found in the products of Pennsylvania or in the oil districts of Wallachia and the borders of the Caspian Sea. The oil now supplied to the Marine Department of Canada is guaranteed to flash at not less than 105° Fahr., and the specific gravity at 44° Baume (about 812). The present price in Canada is 15 cents, about $7\frac{1}{2}$ d. a gallon, and it could be delivered in England at 1s 3d or 1s 4d per gallon. The Committee were informed that the crude oil in the States is much lighter in weight than that of Canada; that there is more volatile spirit in the former and richer oil in the latter. The Canadians complain that, though in natural properties their oils are superior to those of Pennsylvania, they suffer from the Americans having always branded their inferior oils as Canadian, and that in the London market no difference is known between the two, all being known as American.

In answer to their inquiry as to whether the flashing point of the Canadian petroleum, which is now higher than that given by the Pennsylvanian oil, could be raised, the Committee were informed that might be successfully done by *double* distillation, and a point between 120 and 150 degrees reached; but that it is not generally prepared in that manner for public use, as being more expensive and unremunerative. The first distillate of the crude oil in this case is again put through the still before the refining processes are carried out, the product loses nothing of its illuminating power, but burns longer, and the smell is entirely removed, the cost being not above 3d. per gallon more than the single refined oil. The Committee requested Mr. Fitzgerald to prepare and send home a sample barrel of this oil, with an estimate of cost in large or small quantity.

The Committee afterwards visited the refinery of Messrs. Engleheart & Waterman, an establishment conducted on a much larger and more perfect scale than that of Messrs. Fitzgerald; but, beyond some minor differences of detail in regard to the distribution of heat in the stills, the system was practically the same in each.

Throughout both works, however, it is noticeable that the buildings are as slight as possible, and detached from each other, so as to diminish the spread of damage in case of fire or explosion. This is not of uncommon occurrence; and Mr. Fitzgerald himself had but just recovered from the effects of an explosion, by which he must have suffered much pain and inconvenience.

1st October.—The Committee visited Petrolia, accompanied by Mr Fitzgerald and by Mr. McDougall, mayor of that place. The details of this interesting visit are also set down in the separate paper above referred to.

After being very hospitably entertained the Committee left Petrolia and proceeded in the evening to Detroit, and having to wait some time at Sarnia, the Canadian town opposite to Port Huron, they walked along the beach of the River St. Clair, the boundary between the States and the Dominion, to the entrance of Lake Huron, for the purpose of observing the Fort Gratiot light, on the American side, said to be visible 16 miles, and placed to guide the vessels from Huron into the river. The light is 2nd order white, revolving, with two minute intervals, showing a good flash. There is also a steam-whistle to guide vessels in foggy weather. Owing to its position all the traffic of the western lakes passes it, and, with a current from the lake running out 7 knots, it is a somewhat important station to guard.

2nd October.—After arrival at Detroit your Committee made a little *détour* to visit Chicago, and proceeded on the evening of the 4th October for Washington, a journey of 850 miles, effected—by the help of those commodious adjuncts to American Railways the Pullman Sleeping Cars—without great fatigue, and on Sunday arrived at Washington in the forenoon, when our kind friend, Professor Henry, soon found us out.

7th October.—The Committee went with Professor Henry to the Lighthouse Department, and were received by Major Elliot and Admiral Boggs, the Engineering and Naval Secretaries to the Board. Some hours were spent in talking over lighthouse matters, and in making exchanges of various papers. On the table was a Doty lamp, sent out by Messrs. Barbier and Feneestre for inspection, an adaptation of the French pump

lamp, with the addition of the outer jacket and central button, and of the stand-pipe for maintaining the overflow at the constant level, which was not used by Captain Doty during the trials at the College of Chemistry last year. The lamp was offered by the makers at a price. Your committee explained what had taken place in regard to Captain Doty's burners and the use of mineral oil generally, but the members of the Board have no intention of adopting these products, preferring their own illuminant, lard oil, as both safer and cleaner. The management of the two departments, and the way in which the lighthouse service is conducted by each Board respectively, was freely discussed; and while all information was cheerfully afforded, and many valuable particulars as to the fog-signals in use and their comparative value given, the United States officers were on their part very glad to receive such suggestions as the Committee ventured to make.

8th October.—The Committee, accompanied by Professor Henry, had the honour of being presented to the President of the United States, who received them with great courtesy, conversing with them very pleasantly for nearly an hour, and showing great interest and much information respecting the subjects upon which they have been engaged. Leaving the White House, they again visited the Lighthouse Board Office, arranged for various papers and drawings, &c., being sent with them to England; also printed forms to compare with those in use at home (a list of which is appended to this report) and then took leave of the several gentlemen connected with the Department.

At the Navy Board Office the Committee had the pleasure of renewing acquaintance with Commodore Rodgers, of the Navy Department, who, when in England last year, was known to the Elder Brethren, and a guest at the Trinity House, and who welcomed them with all a sailor's genial kindness. In the evening Sir Edward Thornton, the British Minister at Washington, received the Committee very courteously, and offered any assistance in his power; but, as every facility for enquiry had been given wherever they went, there was no occasion to avail themselves of His Excellency's good offices.

9th October.—Started for New York to embark there on the 16th for home; stopping at Baltimore and Philadelphia by the way.

12th October.—Arrived at New York.

14th October.—The Committee, by appointment, joined General Woodruff on board of their old friend the lighthouse steamer *Mistletoe* for another visit to the Depôt at Staten Island. After going through the establishment again, such of their forms, drawings, and books were selected as the Committee thought might be useful for comparison or reference. The party then proceeded down New York Bay to Sandy Hook, with the intention of landing below the Highlands of Navesink and visiting the two 1st class lighthouses thereat. Having hitherto had no opportunity of seeing a 1st class light in the States, the Committee were very desirous of doing so in this instance, but were unfortunately prevented by the weather—a strong northerly breeze setting in, which would have made it impossible to rejoin the vessel, even if they could have landed.

The Committee, however, visited Sandy Hook, a promontory resembling our Spurn Point, and as troublesome in an engineering point of view. The sand alters with great rapidity, and groins are being run out in various directions to keep it from washing away. At the present time an encroachment of the sea compels the immediate removal of the dwellings occupied by the keeper of the North Beacon, which are in danger of being washed away. Of the lights, three in number, the principle is a 3rd order dioptric; the two others, lighted beacons, are of the 4th order. The Committee visited the principal lighthouse and the north beacon, and were much struck with the difference of condition between the two; the interior of the former was not in a creditable state, but the latter (in charge of a very intelligent man, who, after being once master of a Scotch vessel, had been sailing master in the United States Navy, and served through their late war with credit, and on being discharged had interest enough to get this appointment) was a model of order and neatness. Although only a 4th order light, the keeper received principal's pay, as he had charge of the fog-signal (siren), of which he had taught himself the management, as set forth in his certificate of competency. The siren is of the first class in duplicate, each apparatus in a room to itself, but in the same building; they were

similar to those of the second class described at Little Gull Island, in Long Island Sound, but of larger dimensions. The trumpets of these were made of $\frac{1}{2}$ -inch iron in two pieces, bolted together with a flange; each trumpet was 16 feet in length, and 2 feet $4\frac{1}{2}$ inches diameter across the bell. The consumption of coal was stated to average 16 cwt. of anthracite, or 20 cwt. of common coal, per diem, or about 75 lbs. of the former per hour. The signal is placed about 40 feet above mean tide, and the trumpet's line of axis is depressed so as to strike the water at about three-miles distance. Full details respecting the construction and maintenance of this signal were obtained and are herewith submitted. After a long day the Committee returned to New York late in the evening.

15th October.—The Committee again joined the *Mistletoe* and General Woodruff, and proceeded up the East River, to visit the operations at Hell-gate, undertaken by the Government to improve the approach to New York from Long Island Sound, which were very interesting both in an engineering and navigation point of view. They then visited the Delamater Ironworks, where the Ericsson's caloric engines and fog-horns are made, and saw a number of the former of all sizes. Various drawings and particulars were obtained, which are appended, but there does not appear to be any change or improvement as compared with those in England. The air-engines, we were informed, are principally used in private houses for pumping water, and by printers for driving printing machines. The Progress Works, belonging to Messrs. Brown, the patentees of the siren, were also visited, but those gentlemen seemed quite indifferent about the matter and indisposed to enter upon the subject. One was the gentleman who came to the Trinity House, last year, and it was clear that as his invention would not be tested at the public expense, and he was not inclined to accept the offer of a trial at his own cost; he had dropped the matter—perhaps the best solution of the question, as the Committee do not propose to recommend the instrument for adoption at present.

16th October.—The Committee embarked on board the *Russia* for England, their friend General Woodruff continuing his attentions to the last by taking them on board in the *Mistletoe*. Your Committee cannot sufficiently express their sense of the great kindness of this gentleman; an accomplished engineer, an agreeable well-informed companion, his assistance contributed very much to make their visit enjoyable and instructive.

They also highly appreciated the very worthy master of the *Mistletoe*, Captain Keeney, who had given them much valuable information about the coasts and objects of interest. A thorough New Englander, with that touch of the old Puritan element which still lingers on the Eastern seaboard of the States, he had a fund of information which he imparted in a quaint but very pleasant manner, and with much good sense. His management of the vessel on the regular plan of these coasts was perfect; captain, pilot, and helmsman, all in one, he carried on all his duties in the pilot-house from which he steered.

After a fine and pleasant passage, in a well-ordered ship, arrived in Liverpool on the 26th October, and proceeded at once to London.

Having given in detail these particulars, it becomes the duty of the Committee to review briefly the results of their enquiries, and the conclusions they draw from them; but, in the first instance, they desire to express their acknowledgments of the courtesy and friendliness which they experienced from every person with whom their duties have brought them in contact.

In Canada, Mr. W. Smith, the Deputy-Minister of Marine, delegated by his chief, the Hon. Peter Mitchell, was indefatigable in his efforts to meet every wish of the Committee, and in furnishing them with every facility for carrying out the objects of their visit, accompanying them himself when he could spare time to do so, and rendering himself personally useful and agreeable to them at all times; and the same spirit characterised all the gentlemen connected with the Marine Department.

In the States, Professor Henry, Chairman of the Lighthouse Board, devoted himself with untiring kindness to the Committee, and zealously assisted them in every possible manner, both officially and socially; and to him the Committee's obligations and thanks are pre-eminently due; his personal kindness will long be remembered gratefully by them. Their acknowledgments are also due to Major Elliot and Admiral Boggs, respectively

Engineering and Naval Secretaries to the Board at Washington, as also to the members of the U.S. Lighthouse Board, for their ready compliance with every wish expressed by the Committee, and their considerate attention while there. Nor must they omit to acknowledge their obligations to General Duane, the Engineer Officer in charge of the 1st District, and to Commodore Strong and Captain Selfridge, U.S. Navy, the Inspectors of the 3rd and 1st Districts respectively.

The Committee now proceed to submit the following observations on the general results of their visit.

Taking a short review of the two lighthouse systems, of which time has only permitted us a rapid and imperfect examination, our duty being more especially connected with fog-signals; it appears to us that there is but little agreement between them save in two respects, viz., in the mode of appointment of their light-keepers, and in the general efficiency of their lights and signals.

In regard to the first point, both systems seem to be ruled by political considerations rather than by fitness or previous knowledge on the part of the keeper appointed. The office, a light-keeper is looked upon as an ordinary unskilled occupation, requiring no special knowledge or training, and the keeper has neither increase of pay, promotion, continuance of service, nor pension in the future, to look forward to as an incentive to good behaviour.

The Canadian system is one of simplicity and economy; there is no Lighthouse Board nor any professional advisers save an engineer, whose time is very much taken up in other public employments; the administrative and executive duties rest entirely on the Minister of the Marine and his officers, and they prefer to employ simple and easily managed apparatus rather than use scientific arrangements requiring careful adjustment or attention. Relying on their own natural products of mineral oil and wood, they use the former as their illuminating agent, and the latter as the material for constructing their lighthouses. Their buildings appear to be easily and quickly erected at small cost; the mineral oil is a powerful illuminant, requiring little care in management in catoptric lights, and is inexpensive; moreover, as our experiments show, a higher ratio of illuminating power is obtained from mineral oil in catoptric lights than in any other arrangement. Such a system seems admirably adapted for a young country. Good in itself the source of light does not require the undivided attention of the keepers, which it would be impossible to secure, both by reason of the habits of the class of people who are employed, and the impossibility of paying such high wages as would be demanded for skilled and special care. The present wages of a light-keeper are merely an addition to an income derived from another source, and the duties may be and are easily attended to by the members of his family.

The lights we saw at various times were well kept, and we are told there are very few complaints, though they sometimes "get a little dim towards morning," according to one of the pilots of the St. Lawrence river-boat. There are but few exceptions to the catoptric system, and there is consequently little liability to error in fixing or exhibiting the lights. The Canadian authorities are rapidly increasing the number of their lights, and in the course of a few years they will have supplied a great extent of sea, river, and lake shores with them if they progress with the commendable zeal which characterises them at present. It will then be time enough to think of scientific refinements; at present they would be incompatible with the finances of the country or the habits of the people. It must also be remembered that for nearly one-half of the year the greater portion of the Dominion lights are discontinued.

As regards the light vessel and buoyage system of Canada, we may say that the former is not important in extent, but good as far as it goes; their floating lights being few in number, and withdrawn when the navigation is stopped. The vessels are generally well found, and well kept, and the lights clean and in good order. The most noticeable feature to us was, their adaptability for carrying steam fog-signals. The buoyage system is also not extensive, and, wherever the water does not exceed 6 or 8 fathoms; they use stake buoys, which are merely spars shackled on to sinkers of iron or

stone, and must be unpleasant things for a vessel to strike end on.

The fog-signals of Canada are good, but here again simplicity and economy are the ruling influences. That which is the most economical, and the simplest to keep going, is used, but the chances of accident are not provided against. No duplicate is kept in reserve, and if a signal gets out of order it must wait until a mechanic can be sent to put it right, a long interval frequently intervening before the mechanic gets there. The Daboll horn has been discarded, not because it was inefficient, but because, in the hands of unskilled men, it got out of order sooner than the whistle, and, no duplicate being at hand, was stopped; nevertheless, the steam-whistle is open to the same liability, though in a minor degree, and the authorities, whenever they can find a mechanic, send one to take charge of it. There is a prevalent idea concerning steam-whistles that it is only necessary to have a very strong boiler, with a valve to work by hand, to let steam pass to the cup, and a hand pump to fill it; but, in point of fact, to keep at work for many hours together there must be an engine of more or less power to pump water into the boiler, as well as to regulate automatically the blasts of the signal. In one of the Canadian light-vessels which we visited, the steam was wisely utilised for other purposes, such as condensing water and working the anchor and cables, a separate small engine being added for the latter purpose. Altogether the fog-signal system of Canada is good and effective, and has been of great benefit to the trade.

Turning now to the system of the United States, a very different aspect presents itself. The lighthouse authority is a Board composed of engineer and naval officers, with a scientific gentleman at their head, and a secretary of each of the two executive branches, each of whom is also a member of the Board. In theory it is excellent, and it does not seem possible to devise a more perfect arrangement; but the results produced are not better than those attained by the system of Canada, nor than our own. The element of weakness is that its members may be, and are, so frequently removed by rotation of employment into other branches of their several services, that there must necessarily be want of experience in details. The system of lighting is chiefly dioptric; but the modes of utilising the rearward light where possible, of covering dangers with coloured sectors, of directing and condensing the light in the most efficient manner, of giving light the normal direction due to its height, are not, so far as we could learn, adopted. The effects of obstruction from any part of the apparatus, or of coincidence between it and the lantern, are not taken into consideration, the common diagonal framed lantern has been discarded as a waste of glass, and the use of the old vertical astragals resumed. A noticeable incongruity (to our eyes) in the American Lighthouses is the general want of cleanliness and care in the internal arrangements; the apparatus we mostly found clean, well kept, and true in focal position and level; and it was difficult to understand how this was kept so, while their oil-vessels and appliances were dirty and untidy, and rust and want of paint were commonly met with. This is, no doubt, attributable in great measure to the mode of appointment of the keepers, and perhaps partly to the character of the people, who pride themselves on being able to turn their hands to anything, and have no hesitation in changing their trade or occupation. Essentially practical, they will give all their energies to accomplish a result, but are quite indifferent as to the accessories. There are abundant regulations drawn up by Admiral Thornton Jenkins, the late exceedingly able Naval Secretary, now holding a high command, but many of them seem to be habitually disregarded. There also seems to us (if we may be permitted to offer what is merely an opinion) to be the risk of a want of cohesion between the Engineering and Naval sections of administration; there is no direct clashing of authority, but in many cases it seems to us probable that greater efficiency and economy would result if one branch were accessory to, rather than co-ordinate with, the other; either, as in France, the engineering branch the head; or, as with us, the nautical element. A more able class of gentlemen than the military engineers of the United States cannot be found—men educated with every advantage, and who bring their knowledge to bear on civil as well as military engineering matters; and in their Naval Inspectors they have most competent officers used to enforce a strict discipline. But both naval and military officers want under them men more amenable to discipline,

and less independent, to enable them to carry out their work satisfactorily. The Board is divided into Committees for sectional duties, in the same manner as our own, but the members meet but seldom, and it appears that the details of the service are in a great degree left to the judgment of the executive officers.

Looking at their lights, from seaward, at night, they appear to be good, though in brilliancy they do not seem to equal those of Canada, owing, probably, to the illuminant being lard oil, of which the photogenic strength is said to be only 8 candles per argand burner. If so, the lights are doubtless inferior; but we were told, on the authority of Mr. Funck, the foreman lamp-maker before referred to, that at the last delivery of this oil the samples were tried and the argand found equivalent to 12 candles, also that a higher standard will be insisted on in future contracts. The Lighthouse Board are very partial to this source of light, which possesses some good qualities and some serious drawbacks. It is very clean, very pure, does not deteriorate, but rather improves with age; does not char the wick to any appreciable extent, requires no trimming, and therefore little watching, is pleasant to burn, and above all is perfectly safe. But it congeals at a high temperature, 44 degrees of Fahrenheit, and is expensive, the last contract delivered at Staten Island being at 95 cents currency at par, value about equivalent to 3s. 7d. sterling. The American Board are entirely opposed to the use of mineral oil; they have as good an illuminant as they require, and they do not consider that the question of expense is to be weighed for a moment against that of safety. On their own vast extent of coast line they must be their own carriers, and in this they see the prospect of a danger they do not desire to encounter.

In the buoyage system of the States, the same plan of spar buoys obtains as in Canada, wherever the ice is likely to form. Their other buoys are generally iron, either conical or with the cone truncated. No particular attention is directed to making them unsinkable; but they show as conspicuous a mark as our own, and seem to ride well. Red and black mark the starboard and port sides of channels respectively, but the Board have been obliged to discontinue the use of both those colours on the same buoy. A third distinction is in consequence introduced, their middle grounds being marked by black and white buoys. In conversation their naval men generally admitted the English plan to be the best; but, like practical people, while no dissatisfaction exists they are content to leave well alone, and have no idea of troubling themselves about international rules; they act upon what appears to be the common American view, that they know what is best for themselves, and will practise it, regardless of what other people do. This is aptly illustrated in the case of the International Steering and Sailing Rules, to which they have added a rule compulsory in their own waters, that steamers approaching each other shall signal by their own whistles the course they mean to take, the first whistle taking the choice. It seems to work well, and we had plenty of opportunities of observing it in practice.

As regards fog-signals the necessities of the American coast have caused the authorities to pay particular attention to this branch of their system. The bell, as with us, is generally applied only to places where other signals cannot be conveniently used, or for supplementing another kind of signal either not in readiness or out of order, an instance of which, we have already stated, occurs at Portland Head. The most powerful signals in use next to the gun are the horn and whistle; of the former there are two kinds, viz., that of Daboll worked with air, the other (the Siren) worked by steam. The whistle is of the ordinary shape used in England; but is arranged to give a hoarse low-pitched blast instead of a shrill one, the note being regulated as desired. The low-pitched blast is almost always used in America, whether for locomotive or other whistles. This note, however, is never used for purposes of distinction; as with us, the distinctive features are in the interval between the blasts, and sometimes in the volume, depending on the consumption of coal and diameter of the cylinders. Among these various instruments no positive choice or preference is made of any one. In the 1st district the Engineer Officer, General Duane, prefers the 10-inch whistle, and has superseded some horns in its favour. In the 3rd and 4th districts, General Woodruff prefers the Daboll horn,

and is erecting more of them. Others advocate the Siren; but the notion that the Daboll horn which we use is being discarded in America is an entire fallacy; all are recognised as being of equal use, while the Daboll is considered to have the advantage in safety, simplicity of management, and economy of working. Its primary cost is admittedly larger, but its working expenses far less than the whistle, and its effective strength, like that of the other signals, is proportional to its size, and to the power used in working it. Professor Henry rather favours the Siren; but at the trials at Portland, of which the Professor is preparing an account of his observations, we were not struck with any gain of sound or special modulation which would make it distinctive; while it would seem that the force employed to make the disc of this instrument revolve 2,800 times in a minute might be more directly and economically applied. Such and all of these instruments do good service on the coasts of America; and this brings us to notice the circumstances which make fog-signals so much a matter of necessity on these shores. For a considerable portion of the year on their Atlantic, as well as on their Pacific coasts, as far down as the 34th parallel of latitude, fogs are very prevalent from well known causes. These coasts are frequented by a very large sailing and steam coasting trade, the most valuable articles and all passenger traffic being conveyed by the latter. In addition to the external shore there is an internal line of coast formed by inland waters connecting with all the eastern rivers, the whole extent of which is so protected and safe that, except when impeded in the north by ice, it is in constant use. From the Bay of Fundy to below Cap Hatteras there is a chain of such internal waters only broken between the southern limit of Casco Bay and the outlying promontory ending in Cape Cod, in which comparatively smooth water is found, where the traffic is very considerable, and vessels, particularly steamers, are always running at high speed. For these vessels to stop frequently and for long intervals on account of fog would be a serious inconvenience and loss; time must be kept, on the now well established axiom that time is money, and it has become the common practice to run on in spite of fog. Such being the actual state of things, obviously the thing to be done is to endeavour to guard against its evil consequences, and hence the necessity for and multiplication of fog-signals.

Following up this subject of their coasting trade, and its enormous development, it is not difficult to understand why the States have always refused to allow England or other countries to share in it. It is of enormous value, and pervades their whole country as far as the Mississippi and the westernmost lake; their rivers, like the Hudson and Potomac, their deep arms and bays of the sea, like those of the Chesapeake and Delaware, reach a long way into the heart of the country, and the great lakes carry a large commerce on their waters. It is for this, far more than for the foreign trade, that the numerous lights and fog-signals of the States are placed and maintained out of the public purse, and when it is urged that the foreigner is charged for the use of English lights, but gets those of America free, it should also be remembered that he is admitted to equal rights with home navigation in England, but not in America. It is true that in the latter country the service is carried out as a part of public works, but there the principle is carried out in its fullest sense; for while they light their coasts, rivers and lakes, for one portion of the travelling community, they at the same time conserve, repair, and construct public works on their lakes and rivers, and make and subsidise rail and other roads for other classes of carriers. When the Government of Great Britain undertakes the same duties, makes our rivers navigable and purifies them, makes roads and gives large subsidies for so doing, then by analogy we, like the Americans, should throw the expense of the lighthouse system on the general taxation of the country. But until such things are done, it would be an injustice to other interests, who have as good a claim to be assisted by the State as ship-owners, and it would be a relief only to foreigners.

One of the evils of political influence may here be alluded to; viz., the sometimes unnecessary multiplication of lights. These are at times said to be obtained against the opinion of the lighthouse authority, and money is spent and patronage created, causing increase of taxation even to the detriment of system. As an instance of how little regard

is had to economy, it may be observed that at the present time a light-house is constructing on a rip-rap foundation in Long Island Sound, the appropriation for which, voted by Congress, is 300,000 dols. (£60,000). The site is about 6 or 7 miles from the land, in comparatively smooth water, the time for its erection being computed at two years from commencement, and this within 4 miles of another light which cost £15,000 with the fog-signal and dwellings.

This seems to be a fit opportunity for mentioning that in the United States the provision for steam-vessels and tenders is far larger in proportion than ours: the 13 districts into which the coast is divided, many of which compare nearly in extent with our own of Milford and Yarmouth, have each two efficient steam vessels attached to them, one for the naval inspector and one for the engineer officer, which vessels with their crews are wholly employed in lights service.

Such, then, is a brief review of the salient points of the two lighthouse systems we have had the opportunity to visit, though, necessarily, from the limited time at our disposal, it can hardly do justice to the subject. Both systems produce excellent working results, and it is but just to say that the Minister of Marine in Canada, the Hon. Peter Mitchell, and his indefatigable and energetic deputy, Mr. William Smith, with but very little technical assistance, have done valuable service to the navigation of the Dominion, and have produced results leaving little to be required. The intimate and personal knowledge by both these gentlemen of the maritime provinces and their needs has been eminently useful: also in the Trinity House of Montreal the Dominion has found efficient guardians of the upper St. Lawrence.

To the Light House Board at Washington (of which the Secretary of the Treasury for the time being—now the Hon. George S. Boutwell—is ex-officio President), and its permanent head, Professor Henry, much also is due. This gentleman gives his unremunerated services to the performance of the duties; the military and naval members, being considered as in the active discharge of their profession, are on the full pay of their rank. The Executive is well organised, a large clerical staff is maintained, the district officers already referred to ably support the arrangements made at headquarters.

We have now only to state the conclusions at which we have arrived in regard to the primary object of our visit to the American continent, viz.—(1) the extent to which fog-signals are there used, (2) the audible range and effective merits of those in common use, and (3) the degree of extension which it may be desirable to give to the fog-signal system on our own coasts.

As regards the first point, we found that fog-signals were used in the same way as lights and beacons in fine clear weather, and are trusted to almost as implicitly. American vessels run by them, irrespective of all considerations of crowded navigation, or of other marks. The Fall River, Newport, and New York boats, those also on the route between Portland and Halifax, or St. John's and the Bay of Fundy, rarely, if ever, allow fog to hinder them, and are seldom much behind time. This is effected solely by the agency of fog-signals. Undoubtedly great risks attend this kind of navigation, sometimes ending in serious disasters such as happened to the steamship *Metis* during our visit. In this case a sailing schooner ran into a steamer, both going at considerable speed in a fog, with such force that, although the steamer floated a few hours, she was ultimately lost with a large number of lives. Fog may be said to be the normal condition of the American coasts for full one half of the year or more; ship masters and owners cannot afford to be stopped by it, consequently they run the risk.

On the second point, as to the efficiency in audible range of those in common use, we are of opinion that all the horns and whistles we heard may be safely relied upon, when care and attention are used, to a range of from 2 to 8 miles under different atmospheric conditions, and according to the direction and force of wind.

It is quite true that, from the various eccentricities which seem to characterize the transmission of sound, it may occur that they are sometimes audible farther, but the sound is then faint and not easily recognisable to the inexperienced observer; and when reports are made of a signal having been heard at an unusually great distance, they generally prove

to have been received from persons previously cognisant with its position and bearings, rather than from persons unaware of those facts. We ourselves heard the steam-whistle of the Manicouagan Lightship 12 miles in light weather; but we knew its position, and saw the jet of steam to prepare us for the sound; one sense assisted the other. But for testing the practical value of a fog-signal one sense only, that of hearing, is really available, and for that we are agreed that 8 miles is the extreme limit to which any signal that we heard can be, or ought to be, relied upon for practical use when under weigh.

In our trials and experiments several points were, we think, clearly established, viz. —(1) that up wind the reach of sound is very limited, diminishing with the increase of force of wind, while very little obstructs it altogether; (2) that sound travels equally as far when projected across as down the wind, if not farther; (3) that sound is sometimes strangely deflected according to some unknown law, as it was frequently observed to be stronger at a greater distance than in the intermediate range; but upon this point Professor Henry proposes to make particular investigation; (4) that the listener is assisted by standing in front of a flat surface of wood, intercepting the sound and causing it to reverberate to the ear; and (5) that the sounds of the air trumpet, of the steam Siren, and of the steam whistle (all pitched at a low note as found from experience the best adapted for carrying sound furthest) differ so little that the mariner at sea, just getting within range of the sound of one of these signals, would be entirely unable to decide which instrument he heard; and that even at a very short distance, say $1\frac{1}{2}$ to 2 miles, unless the motive power of the signal be considerably above the average of that used for ordinary signals, none but the most experienced and careful observers can do so. It follows, therefore, that for purposes of distinction the nature of the instrument itself cannot *alone* be relied on, and that the only trustworthy guides are distinctive variations in the number and length of blasts and intervals, the capacity of the air cylinder for an air trumpet being regulated in each case by the quantity of air necessary to produce the peculiar variation selected.

Turning now to the last point we have had under consideration, viz., as to how far it may be desirable to extend the use of fog-signals in this country, we have to submit that, as no such lengthened foggy period of the year as exists on the American continent obtains on our coasts, and the days on which fog partially prevails do not exceed 60 or 70,* there is no occasion for us to contemplate so extensive an application of Fog-signals as is found necessary in that country, although we consider that, in a modified degree, they may be established more freely than at present; but that they should be confined to guiding vessels into harbour, and to marking sailent points of the great channel highways of shipping, so that navigators may be able to fix their positions with certainty, but not to offer encouragement to reckless speed by placing them at too frequent intervals. To this end we recommend that steam fog-whistles, of 10 and 12 inches respectively, may be adopted, as well as the Daboll and Holmes horns now in use, in such positions as it may be desirable to erect them.

In conclusion, we would submit for the consideration of the Board, the names of some points in our various channels which suggest themselves to us grounded on our present experiences as being fitting sites for placing warnings, in further development of our fog-signal system. In the British Channel, the Lizard Point and the *Shambles* and *Owers* Lightships appear to demand the first consideration. The former has been already under discussion; while the *Shambles* and *Owers* lightships may be selected as guarding the much frequented waters of Portland Harbour and Spithead. In the approaches to St. George's Channel, the Fastnets, the first landfall of the western trade, would be eminently suitable; but, if its exposed position should offer insuperable difficulties, the Old Head of Kinsale would be the next best site. The entrance to Queenstown, signals for which are now under discussion, may be considered as provided for; and a gun is sanctioned for the *Coringbeg* lightship. We recommend that the North Stack fog-gun should be utilized to the full extent, by reducing the intervals between the times of firing, and that

* During 12 months ended June, 1872, fog occurred on 53 days at No. Stack, 67 at Lundy, and 68 at Flambro'.

a distinctive signal should be placed on the Skerries, to lead vessels up to the N. W. Lightship and approaches to Liverpool. In the North Channel the Island of Innistrathull and the Headland of the Mull of Cantire would offer valuable sites, and the attention of the Irish and Scotch Commissioners, respectively, might be invited to the subject. At the entrance of the Bristol Channel St. Ann's Head on the north, leading to Milford Haven, and on the south Hartland Point, already a proposed site, should be considered. On the east coast, the Longstone and the Spurn Point so protected would be valuable additions to the safety of that seaboard, already guarded at Souther Point and Flamborough Head and the Newark lightship; while the *Shipwash* lightship, leading to the River Thames and Harwich Harbour would, thus provided, complete the circle of the coast so far as relates to the extent of our present recommendation.

Appended to this Report are lists of drawings, papers, books, &c., received from the Lighthouse authorities for comparison and general information.

(Signed),

FRED. ARROW,
J. SYDNEY WEBB.

TRINITY HOUSE,

4th November, 1872.

NOTES OF A VISIT TO PETROLIA AND A PETROLEUM REFINERY, IN ONTARIO, CANADA.

The Committee of Elder Brethren to North America (Captain Sir Frederick Arrow, Deputy-Master, and Captain J. Sydney Webb) having, during their recent journey, visited an oil-bearing district in Canada, and also seen the process of refining mineral oil as carried on in that country, desire to place before the Board such information as they were enabled to gather upon the subject.

On the 30th September, 1872, the Committee started from Hamilton, Canada West, and arrived at London, Ontario, with letters of introduction to the Messrs. Fitzgerald, of the Union Oil Works, the contractors for the current year's supply of petroleum for the Canadian Lighthouses. Here they met with a very kind reception, and, under the guidance of Mr. Fitzgerald, proceeded to view the process of refining.

The first halt was made at the tanks into which the crude oil, an opaque, dark, thick fluid, is delivered from the trucks in which it is conveyed by rail from Petrolia. There were two small tanks holding 7,200 gallons each, and one larger, 43,200 gallons in capacity. They are half sunk in the ground, and banked over with earth; from them the oil is pumped through iron pipes into stills in another part of the premises, where it is boiled until entirely vaporized, leaving a thick residuum of tarry bituminous matter. The vapour, condensed by passing through pipes immersed in a cold water tank, falls in a fluid state mixed with water into another tank. The water gravitates to the bottom, and is then pumped out or drawn off by taps, and the condensed matter, at this stage of the process, having changed from dark green to a pale brown colour, is pumped into a large circular tank called an agitator.

The first portion that comes from the still, the Committee were told, will flash at 60 degrees; this, however, quickly becomes less volatile, and soon reaches a flashing point of 100 degrees of Fahrenheit. Sulphuric acid is then applied, which causes any remaining tarry element to precipitate itself to the bottom; and in order that the acid may penetrate into and act upon the whole of the oil, air is continually forced into the tank from below, by which means the oil is kept in a state of constant agitation. After the sulphuric acid has had its effect, which is seen by the colour of the oil, caustic soda and oxide of lead are applied in the same way to deodorize it, a process peculiar to Canadian oil, which has an offensive smell not found in that of Pennsylvania. When this process has taken effect, a quantity of sulphur is added, which at first turns the oil perfectly black, the whole mixture being kept in agitation as before, until the operator is satisfied as to the specific gravity and colour, which he tests by samples taken from time to time in small phials.

When he is satisfied, the air blast is taken off, and the black portion gravitates to the bottom at once. The refined oil at the top is then drawn off into the bleacher, a large open tank exposed to the light, and remains there two or three days, the oil growing whiter from the effect of the light. This is the final stage. It is then conveyed in pipes to a store shed half under ground and banked over, where it is drawn off into wooden barrels of 40 to 42 gallons each; the barrels, generally made on the premises, are always quite new, and are lined with a thin coating of glue to enable the men to detect holes better, and make the wood less absorbent. The casks are filled by means of a patent barrel-filler, which prevents overflow and waste. It is a very ingenious self-acting contrivance, by which the supply is cut off immediately, giving warning that the barrel is full and that it must be shifted to another barrel; it is patented by Catlin, of Cleveland, Ohio, a man engaged in the refineries there, and is, like many American inventions, the offspring of the necessity of dispensing with manual labour.

The tarry substance mentioned as deposited at the bottom of the stills in the first process, is utilised for fuel. It is mixed with a strong jet of steam at the point of delivery, and projected in the form of gas into the furnaces, and produces a very great heat. No coal or wood is used except a little of the latter to start with.

The Committee also visited the Refinery of Messrs. Engleheart and Waterman, a much larger establishment; but as the process employed was the same, except for minor differences in detail, no particular description of this establishment is needed. To mitigate the evils of an explosion, the buildings are lightly built and detached from each other in the same manner as in our gunpowder factories in England.

Next morning, early, the Committee started for Petrolia, accompanied by Mr. Fitzgerald and Mr. MacDougall (the Mayor of that place), and on arrival were received by several gentlemen connected with the oil-wells, who were anxious to afford all the facilities in their power. These gentlemen, making, with the Committee, a party of eight, drove to the oil district. The scene was a most remarkable one: everything rough and practical, the roads, in a fearful condition, the whole aspect of the district comfortless and strange. A portion of the tract was partially cleared, but the greater part virgin forest. The "Maggie" Well, which was in full work, was first visited. Here everything was of the roughest and most economical description, the shed having just sufficient height for the dip of the boring tools—the beams, the guys, even the bearings of the engine were of wood; the pumping-engine, similar to an agricultural one, being placed on the top of a tubular boiler. The gas, of which a quantity is given off by the crude oil, is utilised for fuel, being intercepted at the top of the well by a small pipe fitted into clay-packing and thence conveyed to the furnace. About 10 feet higher up the pipe from the well, the gas is again intercepted, the oil tube branching off at right angles, and the gas accumulating in a chamber above formed by the continuation of the vertical pipe; the pressure in this chamber is used in the first place to assist the flow of the oil through the pipes, the surplus gas being conveyed down to the furnace to unite with that carried by the first pipe. The gas is of a very explosive nature on the application of flame.

This well is 462 feet deep, its produce thick, and of a dark green colour; its yield 100 barrels per day, 40 gallons going to the barrel. As delivered into the tank, water is mixed with the oil; it varies in quality from 23 degrees to 36 degrees of specific gravity, and throws off much vapour.

The Committee then traversed a great part of the oil district which, as now worked, extends over about 10 miles by 4 of ground, there being about 300 wells in operation; but there is little doubt that the whole adjacent country is more or less an oil-bearing region. The Committee were told that there are many vicissitudes in carrying on the business. For instance, a well may fail at any time from causes unknown, and in the same way a barren well may become suddenly productive, while the variation in quantity produced is very marked. The land in the district with wood on it now fetches from 100 dollars (£20) to 1,500 dollars (£300) per acre, but the wood will generally return 40 dollars or 50 dollars. A person therefore entering upon this business first obtains his land, and then sets up his engine-house and derrick, the height of the latter being regulated by the length of the

joints of the boring tools, about 30 feet. He bores for perhaps 10 days, having to pierce through first 100 feet of surface clay—lining the whole with wood; then through about 200 feet of rock, following his drill with an iron tube lining; then perhaps through 100 or 150 feet of the oil bearing rock. If he gets no oil at 500 feet he gives it up, and moves to another spot to commence operations again. One productive hole in ten repays him, and this average is rarely exceeded. The price of machinery and the whole cost of drilling to 500 feet is about £600, exclusive of land. The interests in the wells are much divided, the principle of co-operation being largely adopted, and one man seldom ventures on a whole risk himself. To regulate the prices and to protect themselves, the well proprietors all combine; they elect a Manager and Board of Directors, who meet every fortnight, and base the price of crude oil on the New York quotations. They receive the oil from the well holders at a price so arranged, and sell it at that price to the refiners, adding 5 cents per barrel for working expenses; this surplus is placed to the credit of the organisation, and is divided among the well holders *pro rata*, according to their sales. By this means they prevent competition and work amicably together, though it is against the interests of the buyer.

The Committee made particular inquiry as to the difference in flashing-point between the Canadian Petroleum and that of Pennsylvania. They were informed that by *double distillation*, the flashing point of Canadian oil could be raised to 120 or 150 degrees Fahr.; but that the expense of such a process must entail an increase of price, or it would be unremunerative. The product of such second distillation is said to be equal to the first in illuminating power, burning longer, and being entirely free from smell. The additional cost incurred in the process would be about three pence per gallon. Mr. Fitzgerald promised to refine a small quantity experimentally, and forward it with an estimate for supply.

The Committee were hospitably entertained by their kind hosts, and left the district to resume their principal journey, much gratified at having been able to visit so interesting a neighbourhood.

FRED. ARROW.
J. SYDNEY WEBB.

November, 1872.

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APPENDICES

OF THE

FISHERIES BRANCH

OF THE

Department of Marine and Fisheries
for Year 1872

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APPENDIX A.

SCHEDULE of Fishery Officers in the Provinces of Ontario, Quebec, Nova Scotia, and New Brunswick, appointed under the Fisheries Act (1868), with Districts, Post Office Address, Salary, &c., &c., distinguishing those who, being Fishery Overseers, are instructed to act *ex officio*, as Magistrates, from those who act in the capacity of Fishery Wardens, and do not exercise magisterial powers.

. PROVINCE OF ONTARIO.

Name.	District.	Address.	Overseer or Warden	Salary
				\$ cts.
Henry Hunt.....	Larue's Island	Rockport.....	Warden ..	20 00
Jno. Wallace.....	Lindoe Island	Lansdown	do ..	40 00
J. A. Cameron.....	Cornwall to Coteau du Lac.....	Summerstown	Overseer..	.....
Jno. Mooney.....	Brockville to Cornwall	Prescott.....	do ..	50 00
Peter Kiel.....	Wolfe and Amherst Islands, and waters around down to Brockville.	Wolfe Island	do ..	150 00
Jos. Pierson.....	Carrying Place to Point Peter.....	Consecon	do ..	100 00
Peter Huff, jun.....	West Point to Point Peter.....	Picton	do ..	50 00
Wm. A. Falen.....	Point Peter to Petticoat Point.....	Point Peter, Cherry Valley	do ..	50 00
Jno. G. Hicks.....	Petticoat Point to Black River	Point Traverse	do ..	100 00
Wm. Plews.....	Black River to Bongard's Wharf	Cape Veasy (Cressy)	do ..	100 00
Jas. K. Cameron....	Cobourg to Brighton, with tributary streams and lakes, including Rice Lake	Cobourg.....	do ..	100 00
Chas. Wilkins	Waters of the Bay of Quinte fronting on Counties of Northumberland, Addington, Lennox, Hastings, and Frontenac, and from Carrying Place eastward to Point Pleasant.....	Bellefille.....	do ..	200 00
Samuel Wilmot.....	Toronto to Presqu'île	Newcastle.....	(*) ..	1,200 00
Jno. W. Kerr	Whitby Harbor to Long Point.....	Hamilton.....	do ..	400 00
Jno. McMichael	Lake Erie frontage, County of Kent	Rond Eau.....	do ..	50 00
Henry Groves	From London to Gardner's Mill Dam on the Thames River.....	London.....	do ..	50 00
E. Boismier	Baptiste Creek, on Lake St. Clair, to Point Pelée.....	Sandwich.....	do ..	150 00
Zeneus Quick.....	Point Pelée Island	Kingsville.....	Warden ..	50 00
S. A. MacVicar....	Baby's Point, on River St. Clair, to Kettle Point, on Lake Huron.....	Sarnia	Overseer..	200 00
A. C. McKinnon	Kettle Point to Point Clark, Lake Huron.....	Goderich.....	do ..	100 00
Jno. Eastwood.....	Goderich to Cape Hurl	Southampton.....	do ..	100 00
Farquhar McRae....	Sydenham River, and Lake St. Clair, from Baptiste Creek to Baby's Point	Wallaceburg.....	do ..	100 00
Geo. S. Miller.....	Cape Hurd to Penetanguishene.....	Owen Sound.....	do ..	100 00
Wm. Plummer	Penetanguishene to Thessalon River..	Manitowaning.....	do ..	100 00
Jos. Wilson	Thessalon River to head of Lake Superior.....	Sault Ste. Marie.....	do ..	100 00
Alex. McKenzie	Lake Simcoe and Tributaries.....	Barrie.....	do ..	50 00
Hy. Calcutt	Inland Waters Co., Peterboro.....	Ashburnham.....	do ..	100 00
Jas. McFadden.....	Mississippi River and Lake	Carleton Place.....	do ..	30 00
		Total.....		3,840 00

*Fishery Officer in charge of Government Fish-breeding Establishment at Wilmot's Creek.

PROVINCE OF QUÉBEC.

Name.	District.	Address.	Overseer or Warden	Salary
				\$ cts.
Napoleon Lavoie...	Officer in charge of <i>La Canadienne</i> ...	Gaspé Basin (in summer), L. Islet (in winter).....	Overseer..	1,200 00 300 00
Alfred Blais.....	Point Lévi to Matane	Rimouski.....	do ..	50 00
Jos. I. Letourneau..	Cape Chatte to River Ste. Anne des Monts.....	Ste. Anne des Monts....	do ..	50 00
Jos. Eden	York, Dartmouth, and St. John Pivers, Gaspé Basin and Bay, to Point Peter.....	Gaspé Basin.....	do ..	50 00
Jas. M. Remon	Percé to Point Maquereau.....	Palbos.....	do ..	50 00
Wm. Phelan.....	Point Maquereau to Paspébiac Point.	Port Daniel	do ..	50 00
R. W. H. Dimock	Paspébiac Point to River Grand Cas- capedia	New Richmond	do ..	150 00
Elmine Allard.....	Grand Cascapedia to Maguasha Point.	Carleton.....	do ..	50 00
Jno Moivat.....	Maguasha Point to River Matapedia, including same, and	Matapedia.....	do ..	150 00
P. Vibert, jun	Restigouche River from Mission Point upwards, including tributaries in Counties of Bonaventure and Resti- gouche	Magpie River, Coast of La- brador, <i>via</i> Gaspé Basin.	do ..	200 00
E. Pelletier.....	Trinity Bay	Cap. St. Ignace.....	do ..	50 00
Ferd. Saillant.....	Waters in Counties of Chicoutimi and Saguenay	Grand Bay (in winter) Tadoussac (in summer) ..	do ..	150 00
C. Demeule.....	River du Gouffre to Canard River, in- cluding inland lakes adjacent to Murray Bay, and St. Paul's Bay ..	Murray Bay.....	Warden..	50 00
Philippe Gendreau..	Watsheeshoo District	Esquimaux Point.....	Overseer..	150 00
G. Mathurin.....	Nataashquan District	Nataashquan	do ..	150 00
.....	Anticosti Island	Anticosti	do ..	50 00
Frs. Thivierge	Moisie District	Moisie	do ..	50 00
J. J. Fox.....	Magdalen Islands.....	Amherst	do ..	50 00
J. Legouvé.....	St. Augustine Division.....	.....	Warden..	50 00
W. H. Whitely....	Bonne Esperance Divison .....	.....	do ..	50 00
W. H. Austin	Lakes Memphremagog, Orford Pond, Sugar Loaf Pond, and Brown Lake, with tributaries.....	Bolton Centre	Overseer..	100 00 100 00
Amos A. Mooney	County Brome.....	Knowlton	do ..	150 00
W. C. Willis	Waters in District of St. Francis ..	Sherbrooke	do ..	
H. W. Austin	Districts of Montreal and Richelieu, together with Richelieu River and tributaries.....	Chambly	do ..	100 00
D. McFarlane	Chateauguay River and tributaries....	Huntingdon	do ..	50 00
P. E. Luke.....	Missisquoi Bay in Lake Champlain and Pike River	Philipsburg.....	do ..	50 00
Danl. Rosa	Lakes Beauport, St. Charles, and ad- jacent lakes	Quebec	Warden..	50 00
L. P. Huot.....	Lakes Philippe, Gagné, and adjacent lakes, and the Island of Orleans....	Chateau Richer.....	do ..	100 00
W. L. Holland.....	Ottawa District.....	Ottawa.....	Overseer..	100 00
L. J. Loranger.....	The inland waters of the County of Terrebonne	St. Sauveur.	do ..	100 00
		Total		3,900 00

PROVINCE OF NOVA SCOTIA.

Name.	District.	Address.	Overseer or Warden	Salary
W. H. Rogers	Nova Scotia	Amherst	Fishery Officer..	\$ cts. 800 00

Annapolis County.

W. T. Carty	Annapolis County	Annapolis	Overseer	120 00
Geo. Hardwick	Annapolis and Languille Rivers	do	Warden	25 00
Miner Clark	Lawrencetown Bridge to Clarke's Ferry	Bridgetown	do	25 00
J. Durland	From Lawrencetown Bridge to the county line, including Nictaux River	Lawrencetown	do	25 00
B. LeCain	Lovett Brook	Annapolis	do	25 00

Antigonish County.

Angus McDonald	Antigonish County	Antigonish	Overseer	125 00
Alex. Chisholm, jun.	From mouth of Harbor to foot of Marsh, from thence up Tracadie Stream to Lake, from Marsh up to Monastery Brook, including French Settlement Brook and Tarbits	Tracadie	Warden	30 00
Albert Randall	From Shore to Lake	Ponquet Forks, Antigo- nish	do	25 00
Colin Chisholm	From Antigonish Harbor to McWil- liams or St. Andrew's Bridge	Bayfield, W. O	do	15 00
Angus McDonald	From McWilliams Bridge to Frazer's Bridge, including Big Brook	Lower South River, An- tigonish	do	25 00
Jno. Cumming	From Frazer's Bridge to County Line at the head of Lake	Upper South River, An- tigonish	do	25 00
Jno. Dexter	From Antigonish Harbor (foot of Marsh) to Trotter's Millbrook, thence up said Brook to Trotter's Mills, including both branches of West River and Bailey's Brook	Upper South River, An- tigonish	do	20 00
Jno. Smith	From Trotter's Mill Brook to W. Thompson's dam	Antigonish	do	30 00
Jas. McLean	From Thompson's dam to Addington Forks Bridge	West River, Antigonish	do	25 00
Hugh Cameron	From Forks Bridge to Pinkeytown Bridge, including James River and Beaver River	West River, Addington Forks, Antigonish	do	25 00
Duncan Fraser	From Pinkeytown Bridge to Stewart's Mill	Addington, W. O	do	25 00
		Ohio	do	20 00

Cape Breton County.

Francis Quinan	Cape Breton County	Sydney	Overseer	120 00
Anthony Spencer	Mira River, Black Brook	Mira Gut, W. O	Warden	25 00
Thos. Burke	Mira Bridge and Trout Brook	Mira W. O., Bridgetown	do	25 00
John McEachen	Salmon River	Arichat	do	25 00
Thos. Moore	Balls and Leech's Creeks	North Sydney	do	20 00
Donald McDonald	Sydney River and Forks	Lingan	do	20 00
Alex. McLean	Millbrook		do	20 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
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Colchester County.

Wm. Blair	Colchester County, South Division	Onslow	Overseer	8 cts. 100 00
Rchd. C. Archibald	Salmon River	Truro	Warden	25 00
Samuel Frame	Shubenacadie River	Shubenacadie River	do	25 00
Robt. J. Pollock	Stewiacke River (lower portion)	Lower Stewiacke	do	25 00
Geo. Fulton	Stewiacke River (upper portion)	Stewiacke River, Brook- field	do	25 00
James Bonnyman	French River and Mill Brook	New Annan	Overseer	40 00
J. W. Davison	Colchester County, North Division	Londonderry	do	100 00
Henderson Gass	Waugh's River	Tatamagouche	Warden	25 00
Robert Fletcher	De Bert River	Londonderry	do	25 00
Henry Urquhart	Folly River	do	do	25 00
Hy. M. Fulton	Portapique River	Portapique W.O.	do	25 00
Jno. A. P. McLellan	Economy River	Economy	do	25 00

Cumberland County.

Thos. H. Patton	Cumberland County, Eastern Division, embracing all streams emptying into the Straits of Northumberland	River Philip	Overseer	100 00
Oliver Fillmore	River Philip, Hanams Falls, upwards	do	Warden	25 00
David Stewart	do downwards	do	do	25 00
Jeremiah Brownell	Shinimica River	Shinimica, Goose River	do	25 00
Aas Fillmore	River Philip	River Philip	do	25 00
Jas. King	Cumberland County, Western Division, including all streams flowing into Bay of Fundy	Amherst	Overseer	100 00
David Corbett	Laplanche and Nappan Rivers	do	Warden	25 00
Moses Harrison	Maccan River	Maccan, W.O.	do	25 00
John H. Barnes	River Helbert	do	do	25 00
Francis L. Jenks	Parrsboro' Head	Parrsborough	do	25 00
W. C. Kindress	Wallace River	Pugwash	do	30 00

Digby County.

James H. Morehouse	Digby County	Hillsburg	Overseer	120 00
Wm. Odel	Joggins River	Digby	Warden	25 00
Basil R. Robicheau	Salmon River	Salmon River, W.O.	do	25 00
Loehlin McKay	St. Mary's Bay	St. Mary's Bay, W.O.	do	25 00
Robert Journey	Sisaboo River	Digby	do	25 00
John P. Thibodeau	Metaghan Rivers and Comeau's Brook	Metaghan River	do	25 00

Guysborough County.

Jas. A. Tory	Guysborough County	Guysborough	Overseer	150 00
Jas. Cook	Salmon River, from mouth of river to Graham's West Line	Salmon River, W.O.	Warden	25 00
Wm. P. Carritt	From Graham's West Line to foot of Neil's Lake, including North Branch and Lake	do	do	20 00
Charles Kenny	From foot of Neil's Lake to Beaver Dam Lake, inclusive, and all the lakes through which it passes	Salmon River, West Branch, Guysborough	do	15 00
Donald Gunn	From mouth of Scott's place to Coun- try Harbor Lake, including Gunn's Brook from main river to Hurley's Lake	Cross Roads	do	30 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
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Guyborough County.—Continued.

William Pride.....	From mouth of river to Sinclair's Point, including stream from Wine Harbor to Lakes.....	Sherbrooke, St. Mary's..	Warden..	\$ cts. 30 00
Thos. McKeen.....	From Forks to County line, including McQueen's Mill and Brook to Lake.....	Melrose.....	do ..	30 00
Edward Jordan.....	From Forks to Indian-man's Brook..	Glencly	do ..	30 00
Robt. McKay.....	From head of tide to head of Intervale on the North Branch, and to Cameron's Mill on the Valley Branch...	Guyboro', Intervale, W.O.	do ..	15 00
Jas. R. Bruce.....	From mouth of Slam Harbor River to Upper Falls.....	Guyborough.....	do ..	10 00
Jas. Nickerson.....	From Beach to Falls including North West Brook.....	New Harbor, W.O.....	do ..	15 00
Allan McQuarry.....	St. Mary's River.....	St. Mary's River, Sherbrooke.....	do ..	40 00

Halifax County.

Ezekiel Sibley.....	Halifax County, East Division, Dartmouth to Ecum Secum.....	Mengher's Grant, W.O., Musquodoboit.....	Overseer ..	100 00
Wm. Guild	From Ship Harbor to Chezzetcook, inclusive.....	Ship Harbor.....	Warden ..	40 00
Wm. Hall.....	Sheet Harbor.....	Sheet Harbor.....	do ..	40 00
John Fitzgerald.....	Halifax Harbor to Margaret Bay, Portuguese Cove.....	Portuguese Cove.....	Overseer ..	100 00
Archbld. Kidston.....	From Peggy's Cove to Terrance Bay.	Spryfield.....	Warden ..	40 00
Nathaniel Mason.....	From Hubbert's to Peggy's Cove, Margaret Bay.....	Margaret Bay, Peggy's Cove, W.O.....	do ..	40 00
Jas. B. Gilbert.....	Gay's River.....	Gay's River, W.O.....	do ..	20 00
Andrew Horne, jun.....	Upper Shubenacadie River.....	Shubenacadie.....	do ..	20 00

Hants County.

Peter S. Burnham.....	Hants County, Western Division, to extend from West County line to Walton.....	Windsor.....	Overseer ..	100 00
John W. Dinsmore.....	Shubenacadie R. from Stewiacke R. to Halifax County line.....	Shubenacadie.....	Warden ..	30 00
James Mosher.....	Rivers Meander and Herbert, from mouth to source.....	Brooklyn.....	do ..	30 00
Timothy B. O'Brien.....	East Division from Walton to Colchester line.....	Windsor.....	Overseer ..	100 00
Joseph Mosher.....	Kennetcook River, from its mouth to the head of tide.....	Newport.....	Warden ..	30 00
Jas. M. O'Brien.....	Walton and Kennetcook Rivers.....	Maitland.....	do ..	30 00

Inverness County.

Murdoch A. Ross.....	Inverness County, East Division	North-East Margaree	Overseer ..	100 00
Peter Coady.....	From mouth of Margaree River to South West Chapel.....	South-West Margaree, W.O.....	Warden ..	25 00
Jno. Carmichael.....	Middle portion of Margaree River	Margaree, W. O.....	do ..	25 00
Archibald McDougall.....	Upper waters and tributaries, Margaree River.....	Margaree River, Mabou.....	do ..	25 00
Reuben Phillips.....	Upper waters and tributaries, Margaree River.....	Margaree, North East.....	do ..	25 00
John McRae.....	garee River.....	do ..	do ..	26 00
Wm. Grant.....	Inverness County, West Division	Mabou.....	Overseer ..	100 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
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Inverness County.—Continued.

Bernard Dwyer	Mabou River	Mabou	Warden	\$ cts. 25 00
Angus McIntyre	River Dennis	River Dennis, W. O.	do	25 00
Donald McDonald	do Inhabitants	River Inhabitants, W. O.	do	25 00
Angus Cameron	do do	do	do	25 00

Kings' County.

John E. Starr	Kings' County	Port William	Overseer	250 00
W. McIntyre	Annapolis River	Kentville	Warden	30 00
H. C. Eagles	Gaspereau	Gaspereau	do	20 00
Jno. Buchanan	do	do	do	20 00

Lunenburg County.

Daniel Dimock	Lunenburg Co. East div. Middle, Gold, Martin's and Mushamush Rivers	Chester	Overseer	100 00
Ebenezer Frail	Eastern River	do	Warden	25 00
James Corkum	Middle River	do	do	25 00
	Lower Gold River	do	do	25 00
	Upper Gold River	Beech Hill, Chester	do	25 00
Jas. Langille	Martin's River	Chester	do	25 00
Henry S. Jost	Lunenburg Co. West Division	Lunenburg	Overseer	100 00
Chas. Pernette	From mouth of Lahave River to Wil- kie's Cove	do	Warden	25 00
James McKeen	Wilkie's Cove to Henry Koch's	Lahave River, W. O.	do	25 00
Jas. Mosman	From Henry Koch's to Knock's	Lunenburg	do	25 00
Edward Morgan	Knock's to source of Lahave River	Lahave River, New Ger- many, W. O.	do	25 00
W. Veinot	Mushamush River	Chester	do	25 00
Geo. A. Nesbit	Petite River	Petite River	do	25 00

Pictou County.

	Pictou County, East Division, includ- ing Sutherland's, French and Bar- ney's River	Barney's River, W. O.	Overseer	100 00
George Murray	Barney's River	"New Glasgow"	Warden	25 00
Donald Rankin	Sutherland River	do	do	25 00
James McMillan	French River	do	do	25 00
Angus McDonald	Bailey's Brook	Bailey's Brook, W. O.	do	20 00
Thomas Graham	Pictou County, West Division, in- cluding East, Middle, West and Caribou Rivers	New Glasgow	Overseer	100 00
Wm. Smith	New Glasgow Bridge to head of East River	do	Warden	30 00
Wm. Graham	New Glasgow Bridge to Harbor	do	do	25 00
Robert Archibald	Middle River	Middle River	do	25 00
Daniel Creighton	West River	West River	do	25 00
Jno. Cameron	River John	River John	do	25 00

Queen's County.

Saml. T. N. Sellon	Queen's County	Liverpool	Overseer	120 00
Stephen Clements	Port Point to Salmon Rocks, Milton Bridge, on Liverpool River	do	Warden	25 00
Theodosius Ford	Milton Bridge, up Port Liverpool River	Milton	do	50 00
Wm. Buchanan	Salmon Rock to Puddingpan Island, around the coast	Liverpool	do	20 00
Hy. Hooker	Puddingpan Island to Toby's Island, up Port Medway River to Dog Cove	Port Medway	do	30 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
<i>Queen's County.—Continued.</i>				
John Fitzgerald	From Steam Mills to Salters Falls on Port Medway River	Mill's Village	Warden ..	\$ cts. 30 00
Barnabas Miles	Salters Falls to Pawn Hook on Port Medway River	Greenfield, W. O.	do ..	20 00
Stephen Smith	Pawn Hook to Brookfield	Liverpool	do ..	20 00
Jonathan Smith	Fort Point to Western Head, Liverpool Harbor	do ..	do ..	15 00
James Farquhar	Western Head, Liverpool Harbor, to Broad River, Port Mouton and Port Joli	do ..	do ..	30 00
<i>Richmond County.</i>				
Duncan Cameron	Eastern Division from River Bourgeoisie to East Boundary of County, including said river ..	St. Peter's	Overseer ..	125 00
Alex. Urquhart	Grand River	Grand River, W. O.	Warden ..	30 00
Hector McKinnon	Loch Lomond	Loch Lomond, W. O.	do ..	30 00
Jno. H. Ballam	Western Division, from River Bourgeoisie to West Boundary of County	Arichat	Overseer ..	125 00
Peter W. Grouchy	Decousse River	Decousse River, Arichat.	Warden ..	30 00
John Proctor, Sen.	Inhabitants River	Port Hawkesbury	do ..	20 00
<i>Shelburne County.</i>				
Wm. Muir, Jun.	Shelburne County	Shelburne	Overseer ..	125 00
W. McKay	Clyde River	do ..	Warden ..	20 00
Mathias Greenwood	Round Bay River and Indian Brook.	Clyde River, W. O.	do ..	20 00
Geo. Archer	Hirchtown River	Shelburne	do ..	15 00
Richd. McGill	Roseway River	do ..	do ..	20 00
James Turner	Jordan River	do ..	do ..	30 00
Lathrop Freeman	Sable River	Sable River, W. O.	do ..	30 00
Hy. Ackerman	Green Harbor	Ragged Island, Lockes Island, W. O.	do ..	20 00
P. Crowell	Barrington River	Barrington	do ..	20 00
<i>Victoria County.</i>				
Donald McRae, Jun.	Victoria County	Baddeck	Overseer ..	120 00
Jno. McLellan	Middle River	Middle River, W. O., Baddeck	Warden ..	25 00
Donald McQuarrie	do	Baddeck	do ..	25 00
Donald McMillan	Baddeck River	Middle River, W. O., Baddeck	do ..	25 00
Angus McKenzie	North River	North River, W. O.	do ..	25 00
Donald McRae	Baddeck River tributaries.	Baddeck	do ..	25 00
<i>Yarmouth County.</i>				
T. B. Crosby	Yarmouth County	Tusket	Overseer ..	100 00
Robert Baker	From Lower Narrows to Mouth of Tusket River	Yarmouth	Warden ..	25 00
J. A. Hatfield	From Reynard's Falls to Lower Narrows, Tusket River ..	Tusket	do ..	25 00
Wm. Kavanagh	Gurill's Bridge to Coldstream ..	do ..	do ..	25 00
Wm. Frosser	Branches of River above Reynard's Falls	do ..	do ..	25 00
Eustace Nickerson	Salmon River	Yarmouth	do ..	25 00
Edward Perry	Little River	do ..	do ..	25 00
Total				

PROVINCE OF NEW BRUNSWICK.

Name.	District.	Address.	Overseer or Warden.	Salary.
W. H. Venning	New Brunswick and Nova Scotia	St. John, N.B.	Inspector of fisheries	\$ etc.
R. N. Venning .....	.....	do	Clerk	1,400 00 400 00
<i>County of Albert.</i>				
.....	County of Albert	Harvey	Overseer ..	100 00
John Taylor	Petitcodiac River	Coverdale	do ..	40 00
Richd. Gross	Mouth of Petitcodiac and Dorchester Bay	Hillsboro'	Warden ..	30 00
Jacob Beck	Pollet River	Elgin	do ..	30 00
<i>County of Carleton.</i>				
Hugh Miller	Miramichi River (S. W.) from Head Waters to Forks	Glassville	Overseer ..	30 00
Hugh Harrison	St. John's River and tributaries, from Long's Creek to Tobique River ..	Woodstock	do ..	100 00
.....	St. John's River, from Eel River to Woodstock	do	Warden ..	30 00
Geo. Burt	St. John's River	Upper Woodstock	do ..	30 00
<i>County of Charlotte.</i>				
B. L. Cunningham ..	Inner Bay of Passamaquiddy	Chamcock, W.O.	Overseer ..	30 00
J. W. Fountain	Campo-Bello and West Isles, with coast and streams in Charlotte County	Deer Island, Fairhaven, W.O.	do ..	100 00
Patrick Curran	St. Croix River and tributaries ..	Milltown, St. Stephen ..	do ..	120 00
W. B. McLaughlin ..	Grand Manan Island and spawning grounds	Grand Mannan	do ..	*240 00
Saml. Dick	St. George to Beaver Harbor	La Tête, W.O.	Warden ..	30 00
Robert Dickson	Seeley's Cove to Lepreaux	Lepreaux	do ..	30 00
Leonard Best	East District from La Tête to Lepreaux	Beaver Harbor, W.O.	Overseer ..	100 00
<i>County of Gloucester.</i>				
Jas. Hickson	River Nipissiguit and tributaries, with Sea Coast and streams from Pelle Dune River to Grindstone Point ..	Bathurst	Overseer ..	250 00
Wm. Pateman	Nipissiguit River	do	Warden ..	50 00
Francis B. Légaré ..	Oyster Beds in Co. of Gloucester, Caraquet, and Shippegan	Caraquet	Overseer ..	100 00
Justinian Savoy	Tracadie	Tracadie, W.G.	do ..	30 00
Jno. L. Veno	Pokemouche	Pokemouche	Warden ..	30 00
<i>County of Kent.</i>				
Chas. Cormier	Cocagne River	Dundas	Overseer ..	100 00
J. Mc D. Sutherland ..	Richibucto River	Richibucto	do ..	50 00
Francis B. Légaré ..	Little Buctouche River	Shediac	Warden ..	30 00
A. M. Girouard	Big Buctouche River	Buctouche	do ..	30 00
James Harnett	From the mouth of Nicholas River on the Richibucto, upwards, including Nicholas River	Weldford	do ..	30 00
<i>County of Kings.</i>				
Isaac Foshay	County of Kings	Sussex, Apohaqui	Overseer ..	100 00
Saml. Gosline	From the mouth of Smith's Creek upwards	Smith's Creek, W. O.	do ..	50 00
Saml. F. Ryan	Mill stream	Studholm, Apohaqui, ...	Warden ..	30 00

* Includes boat hire.

PROVINCE OF NEW BRUNSWICK.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
<i>County of Northumberland.</i>				
				\$ cts.
Thos. Savoy	Burnt Church River and tributaries..	Upper Neguac	Overseer..	30 00
Thos. Harris	Tabusintac River and tributaries	Tabusintac, Miramichi..	Warden..	30 00
Norman Campbell	do do	do do	" ..	30 00
Amos Ferley	Miramichi River and Bay east of Beaubair's Island, in the Parishes of Glenelg and Chatham	Chatham, Miramichi....	Overseer..	100 00
Christopher Parker..	{ Miramichi River and tributaries from Newcastle to Price's Island between Beaubair's Island and Boiestown	Newcastle, do	" ..	160 00
and				
N. B. T. Underhill..		Blackville, do	" ..	160 00
John Hogan	Miramichi River (N. W.) and tributa- ries from Newcastle upwards	Newcastle, do	" ..	210 00
Aaron Hovey	Miramichi River (S. W.) and tributaries between Blissfield and Boiestown ..	Boiestown	Warden..	30 00
Geo. Bryanton	From Elm Tree Brook to Squire Under- hill's, on S. W. Miramichi River...	Blacktown, Indiantown ..	" ..	30 00
Kenneth Cameron ..	Miramichi River S. W. from line of Blissfield to the Head Waters and tributaries	Boiestown, Miramichi..	Overseer..	100 00
Patrick Bergin	Cain's River, Parish of Blackville....	Dumfhey, W. O., Parish Blackville, S. W. Mi- ramichi, ...	Warden..	30 00
Thos. Smith	From lower end of Fingley's Island on N. W. Miramichi, upwards, and the Big Sevogle	North Esk, Miramichi ..	" ..	30 00
David Somers	From lower side of Ox-Bow, on the little South West, upwards	do do	Overseer..	30 00
Patrick Gillis	Little South West River and tributa- ries	do do	Warden..	30 00
Denis Hogan	Renous River and tributaries	Renous Bridge, W. O. ..	" ..	30 00
Thos. McKenzie	From Dunbar's Point on N. W. Mira- michi to lower end of Fingley's Is- land on Little South West to lower side of Ox-Bow	Red Bank, North Esk, Miramichi	" ..	30 00
Robt. Brimner	Napan and Black Rivers and tribu- taries	Chatham, Miramichi....	" ..	30 00
John Williston	Bay du Vin River and Bay, with Pa- rish of Hardwick, Fox, and other Islands and Stations on South side of Main Channel of Miramichi River.	Bay du Vin, W. O.	Overseer..	100 00
James Russell	Miramichi Bay and feeders	Newcastle, Miramichi..	" ..	150 00
<i>County of Queen's.</i>				
Isaiah Langan	Salmon River	Chipman W. O. Gasperaux	Warden..	30 00
John Secord	Cansan River	Long's Creek, Johnston.	" ..	30 00
I. T. Hetherington..	From Cole's Island to foot of Washa- demoak Lake	Jenkins, W. O., Johnston	" ..	30 00
<i>County of Restigouche.</i>				
E. Ferguson	Little Dune River to Morris Rock ..	Dalhousie	Overseer..	100 00
W. McMillan	From Little Belle Dune to Eel River.	New Mills	" ..	100 00
J. Galbraith	Charlo River	Dalhousie	Warden..	25 00
J. McMillan	Jaquet River	River Louise, W. O. ..	" ..	25 00

PROVINCE OF NEW BRUNSWICK.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
<i>County of Sunbury.</i>				
				\$ cts.
Reuben Hoben	St. John's River, Indiantown, to County Line of York.....	Burton, W. O.....	Overseer .	100 00
<i>County of St. John.</i>				
Cyprian E. Godard..	St. John County.....	St. John	Overseer .	150 00
<i>County of Victoria.</i>				
C. McClosky	County of Victoria.....	Grand Falls	Overseer .	100 00
John Jamer	Tobique River.....	Andover	Warden ..	30 00
John McDougall....	Three Brooks, branch of Tobique River	Arthurette, W. O.....	" ..	30 00
G. Bedell.....	Salmon River.....	Andover	" ..	30 00
Donald Fraser	Tobique River.....	do	" ..	30 00
<i>County of Westmoreland.</i>				
W. B. Deacon	Shediac Harbor and River.....	Shediac	Overseer .	60 00
.....	Petitcodiac and Memramcook River..	Moncton	" ..	00 00
D. T. Cormier.....	Dorchester Bay.....	Gautreau Village .....	" ..	.....
<i>County of York.</i>				
C. McPherson	County of York.....	Fredericton.....	Overseer .	150 00
J. Campbell	Grand Pass on St. John's River up- wards	Kingsclear, W. O., Fre- dericton	Warden ..	30 00
W. Brown.....	St. John River.....	Southampton	" ..	30 00
A. Moir.....	From Price's Bend to Burnt Hill, S. W. Miramichi.....	Bloomfield.....	" ..	30 00
Total. ....	.....	.....	.....	.....

P. MITCHELL,
Minister of Marine and Fisheries.

(Certified) W. F. WHITCHER,
Department of Marine and Fisheries,
Fisheries Branch, Ottawa, 1872.

APPENDIX B.

REPORT OF THE CRUISE OF THE GOVERNMENT SCHOONER "LA CANADIENNE," IN THE RIVER AND GULF OF ST. LAWRENCE, FOR THE SEASON OF 1872, UNDER COMMAND OF N. LAVOIE, ESQ., FISHERY OFFICER.

To the Hon. PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honor to submit the following report of the cruise of *La Canadienne*, charged with the protection of the fisheries in the Lower St. Lawrence, during the past season.

Owing to unfavourable weather, we were unable to leave Quebec for Magdalen Islands before the 11th May. Strong head winds, generally accompanied by dense fogs and rain, greatly retarded our progress, and on the 26th, fifteen days after we had left Quebec, we were only at Barnaby Island. Having called at Father Point for letters and instructions, I ascertained that you desired our vessel to proceed with all possible despatch to Anticosti, in order to afford relief and protection to vessels which had been wrecked on the shores of that island. However anxious to comply with your directions, *La Canadienne* could not reach Fox Bay earlier than the 5th June. No depredations had then committed up to the date of our arrival: several articles were, however, subsequently stolen, the greater number of which, I am happy to be able to state, were recaptured and delivered to the lawful owners. Our presence being no longer required at Anticosti, we sailed for the Magdalen Islands, where we arrived on the 15th June. The state of the fisheries in this as well as in the other divisions under my supervision will be treated at length in the following report. For purposes of clearness and facility of reference, I have divided the cruising grounds of *La Canadienne* into five divisions, namely:—Gaspé, Bonaventure, Magdalen Islands, the coast of Labrador, and the Island of Anticosti. Statistics of the yield and value of the fisheries of each division accompany the report on the same, and the general recapitulation at the end will enable you to see at a glance the total produce of the Lower St. Lawrence fisheries. These statistics show that our fisheries in the Lower St. Lawrence are generally in a prosperous condition; there being a considerable increase in the yield of cod and salmon. The figures shew a decrease in the yield of herring, as compared with other years. The causes of the falling off in this and other fisheries are dwelt upon at length in the following report.

La Canadienne was engaged in her cruise this season upwards of five months, the latter part of which period was especially remarkable for its constant gales from almost every quarter of the compass. Whilst at Point des Monts, on our way up the Gulf, a heavy sea broke the patent rudder, and the vessel, no longer answering her helm, came into the trough of the sea, thereby very nearly capsizing. Tons of water poured into her during the short period of confusion which ensued. A jury tiller was at last fixed, and the vessel brought once more before the wind. The crew behaved nobly and worked like men, only relaxing their efforts when all danger was over; but the fact of our so successfully encountering and coming safely through this very rough weather I attribute to the superior sailing qualities of *La Canadienne*. Since she was coppered and thoroughly overhauled she is as good as new, and will, I have no doubt, render good service to the Department for many years. With the exception of the above-named occurrence, this year's cruising was accomplished without any serious accident to the crew or vessel deserving special mention; nor has it given rise to any incidents of a nature to require

any lengthy comment. Every one on board did his duty well ; and I have always received the most prompt obedience and assistance from my officers and crew, who did all they could to aid me in performing the service entrusted me with vigour, efficiency, and economy.

With these preliminary remarks I shall proceed to review the several fisheries of the Gulf and Lower St. Lawrence in the order hereinbefore set forth.

N. LAVOIE.

L'Islet, 31st December, 1872.

GASPE DIVISION.

Owing to its vast area, the fertility of its soil, the inexhaustible wealth of the waters which lave its shores, the county of Gaspé would be one of the wealthiest of the Province of Quebec, were the resources of its land and waters fully developed.

The early history of Gaspé tells us that the Normans and Bretons who fished on its coast had no permanent residence there. They arrived in the spring and returned in the fall, just as the French do to this day on the coasts of Newfoundland. They left behind them guardians of their fishing establishments only. At a short distance from the highway leading from Grand River to Pabos are still to be seen relics of these ancient establishments ; and the oldest inhabitants still speak of a terrific storm which swept over Bay des Chaleurs, while the whole of the fishing population, numbering some 200 to 300 men, was engaged fishing outside on one of the cod banks, which has since borne the name of "Orphan Bank," on account of the number of children whose fathers perished in this dreadful tempest.

Although the mode of working our fisheries, pursued by the powerful firms of Robin and Company and others would seem to be at first sight advantageous to the country, by keeping a large amount of money floating, still the district of Gaspé does not seem to reap much benefit from it. The population has considerably increased of late on that part of the coast extending from Newport to Griffin's Cove. This tract comprises the best fishing and has the most fertile soil of any part of Gaspé, but its inhabitants have no greater liking for agriculture than their fathers before them ; and this has contributed to keep them in a state of poverty. The few acres of land which are under cultivation belong mostly to strangers, and with very few exceptions comfort is found only among those of the inhabitants who can manage to cultivate a small field, and who have not been enticed into getting advances of money from the merchants. The fisherman is thus kept in a continual state of bondage, with scarcely any hope of ever being able to free himself from it. Some, however, do struggle hard, and succeed in getting out of debt ; but to the majority the habit of being in debt becomes second nature, and they do not attempt to rid themselves of this incubus. They do not even deem it possible to live in any other way : their fathers lived in the same way, and they have fallen into their fathers' habits. In my report for 1871, I drew attention to the fine farms in the county of Gaspé and to their superior advantages ; and I then urged upon those who had the oversight of the colonization of our country the duty of diverting to these rich lands the tide of European emigration. I shall not here repeat what I then stated, but merely mention the fact, that nineteen colonization roads are on the point of being completed, which will materially aid in opening up this part of the country. The colonization roads which have been already opened up in Gaspé have been of incalculable benefit to the county. New settlements are springing up everywhere especially on the shore road (known as the Fortin road), and their importance is already beginning to be felt. They form so many centres, and cause the opening up of these lines of communication by rail and steamer.

In spite of all the drawbacks to its prosperity, this county has within the last ten years made rapid improvement ; influential and patriotic men taking the lead and contri-

buting greatly by their powerful efforts to its advancement. In a few years more, this will rank side by side with the wealthiest districts of the Province of Quebec. Before the dissolution of the Gaspé Mining Company, lumbering operations were carried on only at Gaspé Basin, but a wealthy Quebec firm has commenced to operate at Magdalen River, under the superintendence of Mr. Vachon. The buildings, mills, &c., were all completed by the middle of August, and two ship-loads of pine deals were sent to England this fall. This establishment gives employment to some eighty or a hundred men, and is situated, moreover, in a very pleasant place. Doubtless, the farmers in this vicinity will benefit largely by this new enterprise, being enabled to dispose of the produce of their farms conveniently and profitably. Fishermen of this locality are now enabled to obtain work at the mills at \$18 per month and upwards. When *La Canadienne* passed up the river this fall, most of the fishermen were labouring at the mill. The large tracts of timber bordering on the Magdalen River are a sufficient guarantee of success to the owners of these mills. The proximity of the mill to the lighthouse induced me to think that the steam might be adapted to serve a fog-whistle, which would be of very great utility to this place. It is the intention of the owners of the mill to construct a break-water here, which will make a harbour of refuge. Harbours being very scarce on this shore, a fog-whistle would be of the greatest advantage to vessels during foggy weather.

Although some wealthy proprietors own fine farms between Newport and Griffin's Cove, the population may still be considered as exclusively composed of fishermen. From Anse au Gris Fonds to Cape Chatte, agriculture is the principal occupation, the inhabitants fishing only during the dull season of the year.

The most pleasant spots in the county of Gaspé are Percé and Gaspé Basin, and these constitute its only safe harbours. To one or the other of these ports all vessels in distress repair for safety and shelter, and here all cod-fish taken on the north shore is brought to be shipped to foreign markets. In my report for 1869, I made mention of Gaspé as being one of the most desirable of watering places for the tourist and invalid. With a great degree of pleasure I record the fact that this place is becoming the resort of more and more tourists every year. This watering-place possesses unrivalled attractions for such as are in the pursuit of pleasure or health. Convenient bathing-places, in constantly calm, clear water—magnificent scenery—delightful walks and promenades along shaded roads—one of the finest bays in Quebec for boating and fishing, with a fine beach, leave really but little to be desired. Added to this, is a delightfully cool and bracing climate during the whole summer. The only want felt is that of a good hotel; indeed, I have no doubt that an enterprising and intelligent man who would erect a first-class hotel here would soon make a comfortable fortune. The population of Gaspé is of mixed origin and religious creeds. It numbers now 15,557 souls, exclusive of the Magdalen Islands. In 1861, it was 11,426.

THE COD FISHERY.

This being the most important fishery on the Gaspé coast, I shall speak of it first. The numerous and splendid establishments situated at different points along the coast—the fine fleet of sailing vessels and schooners engaged in the fish carrying trade, the army of fishermen employed during the fishing season—serve to give one an idea of the vast importance of our fisheries to our maritime population, as well as of their inexhaustible wealth and the immense traffic carried on with foreign countries.

The following statement, which was kindly handed me by my friend, Mr. Le Boutil-
lier, of Percé, shews the number of cargoes of fish consumed annually by the city of
Ancona, in Italy, alone :—

1871.	Name of Vessels.	Shore.	Labrador.	Pilchards.	Herrings.	Stock fish.
		Quintals.	Quintals.	Hhds.	Barrels.	
September 20.	Wind's Eye.....	2,400				
do 24.	Belle	3,000				
October 6.	Pittio		3,600			
November 2.	George.....					5,000
do 2.	Maiden Bower.....	3,000				
do 4.	Zouave	3,400				
do 6.	Queen of Clippers.....	3,500				
do 16.	Iris.....					5,500
do 19.	John Ludvig.....					5,000
do 28.	Esperance		3,000			
do 30.	Precursor.....				1,100	
December 2.	Sheitan		3,800			
do 8.	T. E. J.....			600		
do 17.	Belle of the Plym.....			600		
1872.						
January 6.	Fautivy.....			600		
do 12.	Maria			800		
February 19.	Mary Bainfield.....			675		
March 17.	Mathilde.....			700		
do 20.	Triumph.....			500		
do 31.	Charles Bal.....					5,000
April 26.	Polynia.....					6,500
	Total.....	15,300	10,400	4,475	1,100	27,000

It will be easily understood from this how every spring gives fresh hopes to the fisherman to pursue with increased ardour his laborious calling. The cod-fishing of Gaspé exceeds that of any other division of the Gulf, as the statistics prove. As already stated, the coasts of Gaspé and Bay des Chaleurs were first settled by the French, at Miscou, Pabos, Mont Louis, and Percé. Monsgr. de St. Vallier, the second Bishop of Quebec, speaks in his writings of a visit to the fishermen of Percé. The principal fishing establishments now in the Gaspé division are those of Messrs. Robin and Company, Fruing, Colas, Leboutillier Brothers, Charles Leboutillier, Fauvel, Lesperance, and Lamontagne. The two last named are Canadians, who commenced business only recently, but they have been so successful that they are now on a par with the other firms. It was feared at one time that the cod had disappeared from these waters, and many plausible reasons were put forward to show the cause; but their return in almost countless numbers dissipated all fears and restored hope to the fishermen. Although cod were abundant on the Gaspé coast, yet they did not visit every point in equal plenty. From Cape Chatte to Mont Louis, the catch was one-fourth less than that of last year; but this was due to the fact that most of the fishermen were engaged in working on the Intercolonial Railway and at the lumbering shanties on the Magdalen River. From Mont Louis to Cape des Rosiers, fishing was better than it has been for the last ten years. There was a great scarcity of fish on the fishing banks of Cape des Rosiers. The fishermen of this locality were in very poor circumstances this fall, and the long winter was looked forward to with considerable apprehension of want. In Gaspé Bay and between Gaspé and Newport the summer fishing was excellent, but during the autumn it unfortunately proved a failure, owing to the prevalence of stormy weather. For whole weeks the fishermen were prevented from fishing, especially at Miscou, where cod are always plentiful and the cod fishermen uniformly successful. They will feel this loss keenly; and not being able to lay by enough to keep themselves and families during the

long and trying winter, will have to obtain the greater part of their winter supplies on credit, and pay for them out of the next season's fishing.

Several schooners were engaged during the summer in carrying goods from Quebec to the several fishing establishments on this coast, and for such of the well-to-do inhabitants as deal directly with Quebec merchants. Mr. Holliday, the energetic lessee of the Moisie River, has placed an iron steamer of 100 tons on the route between Quebec and the various fishing posts on the south and north shores. This vessel will run regularly next season on this route, and will doubtless prove of great advantage to the fishermen of distant and out-of-the way places, by enabling them to procure their goods and provisions at a reduced rate and dispose of their fish more profitably than they could otherwise do. Below is a statement of vessels which visited the Ste. Anne des Monts division during the past season :—

Description of vessel.	Name.	Master's Name.	Tonnage.	Owner's Name.	From where.	Number of men.		REMARKS.
						Brls	Qutls.	
Brig....	Orient Star....	L. Huguet.....	95	J. L. Huguet....	Jersey..	6	2,500	
do....	Wesley.....	Jno. Fleming....	70	Jno. Fleming....	do ..	5	1,700	
Schoon'r	Marie Lea....	Louis Boulet....	62	J. L. Lamontagne	Quebec.	5		Flour & merchandise for master.
do	Emerald.....	Jos. Coulombe..	39	H. L. Boutillier.	Gaspé..	4	700	
do	Marie Louise.	F. Métivier.....	46	F. Métivier.....	Quebec.	4	1,000	
do	Eudora.....	— Morin	40	— Desjardins....	do ..	4		Salt and flour for F. J. Lamontagne
do	Pearl.....	— Gagnon	60	— Gagnon.....	do ..	4		fish for F. J. Lamontagne.
do	Marie Flore ..	— Tremblay....	25	— Tremblay....	do ..	3		Salt and flour for F. J. Lamontagne
do	Marie Aglaé..	— Barde		D. Fournier	do ..	4		Old iron.
do	Ned.....	— Coulombe....		Jos. Dion.....	do ..	5	150	
Total.....						150	5,900	

The following statement shows the names, tonnage, &c., of vessels employed in the fish carrying trade of the Lower St. Lawrence :—

Description of Vessel.	Name.	Tons.	Belonging to what Port.	Captain's Name.	Owner's Name.	Number of men.	REMARKS.
Brigantine..	Ranger	120	Jersey	P. Saire.....	C. Robin & Co..	7	
do	Century	150	do	P. Lemoignand.	do ..	8	
do	Heroine	104	New Carlisle.	Ph. Hubert....	Thos. Savage ..	6	
do	Marie Georgiane	85	Jersey	J. LeBrun.....	LeBoutillierBros	6	
Schooner ..	Dit-On	78	do		C. Robin & Co..	6	
Brigantine..	85.....		do	Jno. Romeril..	do ..	7	
Schooner ..	John Clarke....		do			6	
Brigantine..	Cambria	107		Jno. Strike.....	Jno. Strike.....	7	
Schooner ..	Little Nell	131	Brixham	Albert Turpin ..		5	
do	A. W. C.....	55	New Carlisle.	S. Allen.....	LeBoutillierBros	4	
do	Hematope	76	Jersey	John Carrol ..	Robin & Co.....	6	
Brigantine..	Anna	93	do	Jno. Ahier.....	Jno. Fauvel	6	
Schooner ..	Zigzag	119	Liverpool, Eng	Jno. King.....		6	

Statement of names, tonnage, &c., of vessels employed in the fish carrying trade of the Lower St. Lawrence.—*Continued.*

Description of Vessel.	Name.	Tons.	Belonging to what Port.	Captain's name.	Owner's name.	Number of men.	Remarks.
Brig	Hebe	236	Jersey	P. LeBrun	LeBoutillier Bros	10	
do	Union	193	do	Geo. LeBrocq	Robin & Co.	9	
Schooner	Lord Douglas	58	Gaspé	W. Baker	W. Baker	4	
do	Elfrida	139	Plymouth	S. R. Trithe	do	6	Stranded.
do	Gaspé Lass	21	Gaspé	Jas. Adams	Jas. Adams	3	
do	Industry	16	New Carlisle	A. Babin	LeBoutillier Bros	3	
do	Fly	56	do	—Mercier	Robin & Co.	4	
do	Ant	50	do	—Lemoignand	do	4	
do	Epoch	10	do	A. Ward	do	3	
do	Nova Scotia	42	do	Z. Bourdages	Z. Bourdages	4	
do	Lady Elgin	84	Quebec	C. Bernier	C. Bernier	6	
do	Louisiana	57	do	N. Bernier	Galarneau and Rooney	5	
do	Mary, Star of the Sea	66	do	F. Arseneau	F. Arseneau	5	
do	John Stewart	56	do	T. Lemieux	W. Convey	5	
do	Marie Attila	84	do	O. Talbot	O. Talbot	6	
do	John Henry	124	Salcombe, G. B	John Vivian	do	8	Stranded; a total wreck; 7 men lost.

Codfish appeared at Gaspé later than usual this summer, and fishing began only late in May—in some places, indeed, not until the beginning of June. The statistics annexed hereto shew the number of quintals of cod caught during the past season; also the proportion of men and boats engaged in this pursuit.

MACKEREL AND HERRING FISHERY.

Mackerel fishing is pursued only to a very limited extent in Gaspé Bay since the repeal of the Reciprocity Treaty, the few accidentally caught in herring-nets being used as bait for cod; and even under Reciprocity this kind of fishing was entirely in the hands of Americans, the Gaspé fishermen not catching the fish even for local consumption. For the space of about one month this summer, mackerel was very abundant in Gaspé Bay, some catching as many as 1,700 in one day. Mackerel as well as salmon sold fresh; but prices being low, fishermen considered it more advantageous to engage solely in the more remunerative pursuit of cod fishing. During September and October, prices ruled higher, but mackerel had then left the Bay.

WHALE FISHERY.

This fishery having steadily decreased for the last fifteen years, whalers have become discouraged, and turned their attention to more remunerative callings. Of the six schooners which usually set out on whaling voyages from Gaspé, only the following three repaired this year to the Strait of Belle Isle and the coast of Labrador:—

"Lord Douglas"	Captain Baker	58 tons	15 men.
"Highland Jane" ..	" Ascah	64 "	15 "
"Violet"	" Suddard	37 "	15 "

Their voyages proved a complete failure. On their return from the north shore, they had only secured some 160 barrels of oil; but they killed some whales in Gaspé Bay which yielded them ninety barrels—making in all 250 barrels. This want of success will probably put an end to whale fishing for the present. It is quite evident that whales

have well nigh deserted the Gulf waters, either by reason of their being too much chased or being frightened away by the noise of steamers and vessels. Whalers will certainly be unable to pursue this hazardous calling with anything like satisfactory results, unless they study more attentively the habits of these animals, or else are provided with another class of vessels.

SALMON FISHING.

Although the yield of salmon was not quite so large this season as for the past four or five years, this result was not due to a scarcity of fish on this coast. The several Fishery Overseers of this division all bear evidence to the fact that the various pools of the rivers were full of spawning fish. The settlers on the banks of York and Dartmouth Rivers state that it was quite exciting to notice, in the beginning of July, the schools of salmon ascending these streams to the spawning beds. Another proof that the Gaspé rivers are well stocked with fish is that large numbers of unclean fish came down them in the spring, as many as thirty being found in the nets at Gaspé Basin in one day, which never occurs when salmon are scarce. The quantity in weight of fish this year is about the same as last year; yet there was a falling off in numbers: they were larger than usual. The prevalence of ice late in the spring seriously delayed the salmon fishing, the first fish being taken only on the 3rd June, while in 1871 fishing commenced on the 10th May. The salmon remained in the Bay of Gaspé longer than usual before entering the river estuaries, owing to the presence there of large numbers of capelin, on which they feed, and of which they are very fond. In consequence of this, the outside stations fished well for a longer period than usual, while the inner ones were late in commencing, and the fish did not remain long in the estuaries, being apparently anxious to reach the spawning-grounds: hence the river stations did not yield as largely as last year. On account of the late ascent of salmon up the York River, Mr. Reynolds, who fished the river in the middle of June, caught only three or four fish; Mr. Curtis, however, who came after him, took fifteen in three days. Certain rumours attributed this failure in the York River to the non-observance of the fishery laws; but I am satisfied they were false reports, that the laws were duly observed, and that this decrease was more accidental than otherwise. Fishing was a failure also in the St. John River, owing, I believe, to a timber jam, which, in 1871, prevented the ascent of salmon to the spawning-beds of this stream. This obstacle has been removed during the summer.

I shall here take the liberty of saying a few words relative to the policy pursued by the Department in keeping the Dartmouth River open to the public. This was done with a view to accommodate tourists and transient anglers, for the purpose of attracting an increased amount of travel to Gaspé; but it is well known that the former class of persons seldom fish for salmon, confining themselves merely to catching a few sea-trout, while the latter are on no account a desirable class of anglers. After whipping the waters for a few days, they leave, caring nothing whether the river is protected or left to the mercy of poachers, and contributing little or nothing for the sport given them. Should they happen to be inexperienced, knowing nothing of the art of angling, and, almost as a matter of course, rise no salmon, they forthwith circulate reports that our rivers have no fish in them, or that there is so much netting and spearing and poaching that sport is impossible. Moreover, they leave no money in the place. I consider that, for all purposes of protection as well as for the immediate advantage of the people in this vicinity, it would be far better to place this river under charge of a liberal lessee, who would assume the responsibility of its protection, and restock and occupy it permanently, building houses and improving the place. The only persons whom it would be desirable to accommodate would be such of the officers of Her Majesty's navy as visit Gaspé; and I feel quite sure that any one of the lessees of the Gaspé rivers would be only too happy to have the privilege of treating such gentlemen, many of whom are excellent anglers, to a few days' sport with the fly.

The Ste. Anne des Monts River kept so high during the whole of the fishing season that no nets could be set in it. Fly-fishing was, on the contrary, very good, the lessee

being highly pleased with his sport. From the Ste. Anne to Fox River, fishing was very poor; but it must be kept in mind that in these localities success does not so much depend upon the run of salmon as upon the length of time nets can be set. Some twenty cases of violation of the fishery laws were traced out in the Ste. Anne des Monts district during the course of the last summer, and punished, thanks to the intelligent and energetic oversight had by the local fishery overseer, Mr. Létourneau.

The lessee of the fly-fishing division of the Grand River did this season sublet from the occupants the three stations at the mouth of this river, at the rate of \$100 each, on condition that they should not be fished, in order to allow the salmon to ascend the stream in great numbers. The result did not prove equal to the expectations of Mr. Clarke, the lessee; but I believe the reason why no more fish entered the river to be the condition of its waters. A neighbouring fisherman from Pabos, whose catch used to be from six to eight barrels, caught this year forty; his great success being, no doubt, due to the above cause.

The fishery laws very justly prohibit the throwing of fish offals into streams frequented by salmon. I had to fine many parties at the Grand River for the offence of throwing the offals of their cod-fishing establishment into the stream. Those from Pabos, guilty of a similar malpractice, were also punished in the manner provided by law.

Early last spring I was informed that certain parties had killed salmon illegally in Barachois River; but witnesses being scarce, I had to defer proceedings until the fall. One of the complaints was dismissed; the other person, being a delinquent, was punished. This pretty river, Barachois, is, like Cape Chatte River, settled all along its banks, and the farmers have only to step outside their doors to see salmon and trout, in greater or less numbers, disporting in its waters. Indeed, it requires an extra amount of forbearance to resist the strong temptation of catching some. A local guardian has been placed on this river; but it would be wise policy for the Department to let it to anglers for purposes of better protection. The river is easy of access, and might become a good angling stream. I have been informed by the guardian, as well as by some of the settlers, that it was well stocked with breeding-fish this fall, but, with the small amount of protection now afforded, few of them may be allowed to return to the sea.

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men, kinds of Nets,
Bonaventure, Magdalen Islands, and the North Coast of Labrador'

COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms, salmon nets.	No. of fath. of trout net.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Cape Chatte. . .	3	42	....	10	84	13	1	...	2	1	...	...	...	...	80	60	30	2	...	2,400	325
Ste. Anne des Monts. . .	2	102	....	8	204	21	1	...	2	1	...	...	...	...	196	41	38	1	...	3,083	546
Ruisseau à Re- bours . . .	4	2	....	...	6	...	...	...	...	...	...	...	...	...	6	...	...	...	...	90	10
Claude River. . .	9	4	....	...	14	...	...	...	...	...	...	...	...	...	16	60	...	...	...	200	50
River à Pierre. . .	6	5	....	...	14	3	1	...	...	...	...	...	...	...	12	...	...	...	...	200	50
Mont Louis. . .	20	15	....	...	36	16	...	...	2	...	...	...	...	...	46	100	...	...	...	1,165	20
Anse Pleureuse et Ruisseau des Olives. . .	9	6	....	...	13	...	...	...	...	...	...	...	...	...	13	110	...	...	...	250	40
Gros Mâle. . .	5	3	....	...	10	3	...	...	...	...	...	...	...	...	10	150	...	...	...	120	...
Manche d'Épée. . .	6	4	....	...	12	2	...	...	...	...	...	...	...	...	12	50	...	...	...	100	...
Madeleine River	2	1	....	...	4	...	...	...	...	...	...	...	...	...	4	150	...	...	...	20	...
Grande Vallée. . .	38	5	....	...	26	21	...	...	...	1	...	...	...	10	8	...	...	...	...	2,500	800
Little Vallée. . .	4	2	....	...	8	5	...	...	...	...	...	...	...	...	8	...	...	...	...	270	150
Frigate Point. . .	7	7	....	...	14	7	...	...	...	...	...	...	...	...	11	...	...	...	...	400	105
Petite Anse. . .	7	7	....	...	14	17	...	...	...	...	...	...	...	...	17	...	...	...	...	500	200
Grand Clori- dorme. . .	8	8	....	...	16	8	...	...	...	...	...	...	...	...	15	...	...	...	...	500	270
Petit Cloridorme	7	11	....	...	14	7	...	...	...	...	...	...	...	...	20	...	...	...	...	730	270
Pointe Seche. . .	11	12	....	...	22	13	...	...	...	...	...	...	...	...	18	40	...	...	...	950	300
Grand Etang. . .	20	10	....	...	40	24	...	...	...	2	1	...	...	5	50	...	...	...	...	2,600	550
L'Anse à Valeau	7	7	....	...	14	7	...	...	...	...	...	...	...	1	14	...	...	...	...	570	100
Pointe Jaune. . .	4	4	....	...	8	4	...	...	...	...	...	...	...	...	8	...	...	...	...	300	60
Echourie. . .	7	7	....	...	14	7	...	...	...	...	...	...	...	1	14	...	...	...	...	580	100
Little Cape. . .	12	12	....	...	24	12	...	...	...	...	...	...	...	...	24	...	...	...	...	1,040	114
Little Fox River	11	11	....	...	22	11	...	...	...	...	...	...	...	...	22	...	...	...	...	740	75
Fox River. . .	41	41	....	...	82	39	...	...	3	...	...	...	...	7	85	...	...	...	...	3,085	367
do. . .	...	...	....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
L'Anse à Fugère	2	2	....	...	4	2	...	...	...	...	...	...	...	...	4	...	...	...	...	160	10
Griffin's Cove, N. W. . .	18	18	....	...	36	18	...	1	1	1	...	...	...	5	36	...	...	...	...	1,500	300
Griffin's Cove, E	15	15	....	...	30	15	...	1	1	2	...	...	...	6	30	...	...	...	...	1,200	250
Three Brooks. . .	4	4	....	...	8	4	...	...	...	...	...	...	...	1	8	...	...	...	...	300	50
Jersey Cove. . .	5	5	....	...	10	5	...	...	...	...	...	...	...	2	10	...	...	...	...	400	40
L'Anse à Louise	12	12	....	...	24	12	...	...	...	...	...	...	...	6	24	...	...	...	...	900	150
Cape Rosier. . .	25	25	....	...	50	25	...	1	2	3	...	...	...	8	50	1	...	...	...	2,000	300
St. George's Cove to Ship Head. . .	42	...	....	...	85	40	...	...	...	2	...	...	...	...	36	...	...	...	...	3,360	840
Grand Grève. . .	5	36	....	37	66	33	...	...	...	4	...	...	...	...	30	...	...	...	...	2,880	750
Little Gaspé. . .	21	...	....	...	34	20	...	...	...	2	...	...	...	...	15	...	...	...	...	1,260	400
Cape aux Os. . .	12	...	....	...	18	10	...	...	...	...	...	...	...	...	11	...	...	...	...	500	180
Peninsula. . .	4	...	....	14	10	10	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...
N. W. Bay. . .	2	...	....	...	16	4	...	...	...	...	...	...	...	...	10	...	...	...	...	50	15
Gaspé Basin and York River. . .	2	6	....	9	15	15	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...
Lobster Cove. . .	2	...	....	6	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
Sandy Beach. . .	1	7	....	17	30	30	...	...	1	...	...	...	...	...	15	...	...	...	...	250	30

used, kinds of Fish and Fish Oils, &c., &c., in the Counties of Gaspé and from Point des Monts to Blanc Sablon, including the Island of Anticosti.

GASPÉ.

KINDS OF FISH.										OILS.		FISH USED AS MANURE.		REMARKS.						
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.		Porpoise oil, gallons.	Cod oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat fish, barrels.	Smelt, barrels.
.....	.....	.....	6	.....	6	.....	2	13	.....	4	.....	725	.....	620	.....	1,000	.....	.....	.....	.....
.....	8	31	.....	.....	5	.....	6	7	.....	2	.....	62	.....	1,733	.....	150	.....	.....	.....	.....
.....	.....	3	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	50	.....	50	.....	.....	.....	.....
.....	.....	6	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	150	.....	.....	.....	.....	.....	.....
.....	.....	10	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	160	.....	.....	.....	.....	.....	.....
.....	.....	10	.....	.....	8	.....	4	.....	.....	.....	.....	.....	.....	1,000	.....	.....	.....	.....	.....	.....
.....	.....	.....	12	.....	7	.....	7	.....	.....	.....	.....	.....	.....	200	.....	.....	.....	.....	.....	.....
.....	.....	4	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....	100	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	60	.....	.....	.....	.....	.....	.....
.....	12	11	.....	.....	.....	.....	13	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....
.....	4	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,500	.....	.....	.....	.....	.....	.....
.....	8	16	.....	.....	27	.....	.....	.....	.....	.....	.....	.....	.....	290	.....	.....	.....	.....	.....	.....
.....	8	16	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	270	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	330	.....	.....	.....	.....	.....	.....
.....	11	21	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	670	.....	.....	.....	.....	.....	.....
.....	5	12	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	800	.....	.....	.....	.....	.....	.....
.....	7	16	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	1,600	.....	.....	.....	.....	.....	.....
.....	5	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,500	.....	.....	.....	.....	.....	.....
.....	6	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	540	.....	.....	.....	.....	.....	.....
.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300	.....	.....	.....	.....	.....	.....
.....	4	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	585	.....	.....	.....	.....	.....	.....
.....	.....	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	915	.....	.....	.....	.....	.....	.....
.....	.....	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	736	.....	.....	.....	.....	.....	.....
.....	7	160	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,721	.....	.....	.....	.....	.....	.....
.....	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	165	.....	.....	.....	.....	.....	.....
.....	12	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	2,000	.....	.....	.....	.....	.....	.....
.....	10	80	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1,500	.....	.....	.....	.....	.....	.....
.....	1	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	250	.....	.....	.....	.....	.....	.....
.....	2	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	300	.....	.....	.....	.....	.....	.....
.....	4	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1,300	.....	.....	.....	.....	.....	.....
.....	15	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	2,300	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,000	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,800	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,000	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,250	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	6,900	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	44	.....	.....	.....	.....	.....	3,790	.....	150	.....	.....	.....	.....	.....

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men, kind
COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout net.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Anse au Cousin.	2	4			6	6									2						
Dartmouth River		4			4	4									1						
Douglastown	2	32		15	64	30				2					4					2,000	700
Seal Cove	1	10		4	20	10				1					10					600	200
Belle Anse.		5			10	5				1					6					300	120
Point St. Peter	5	68		30	100	65				7					42					5,500	1,350
Mal Bay	2	74		8	120	60				2					40					6,000	1,400
Coin du Banc.		32			60	30				2					32					2,000	700
Bonaventure Is.		53	27		97	41				3	2			8	129					4,272	445
Anse à Beaufils.		35	20		70	55				8				2	80					2,625	1,400
Cape Cove and Cape Despair.	1	56	30	5	112	65				7				4	125	100				4,760	2,240
Perce																					
Little River		30	25		53	40				4				2	60					2,550	1,200
Grand River		93	40		186	100				8				3	190	60				7,440	3,000
Pabos		69	35		136	75				12				3	140	645				4,685	2,000
Newport		80	40		160	90				8				2	170	110				6,000	3,100
Total...	30	1239	482	163	2,344	1159	3	3	4	95	5			76	2,043	1677	68	3		85,865	25,692

RECAPITULATION.

Value of the different Fisheries of GASPÉ DIVISION.

Summer Cod-fishery.....	85,865 quintals at \$ 4.....	\$343,460
Autumn do	25,692 do 5.....	128,460
Cod tongues and sounds.....	151 barrels 8.....	1,208
Haddock Fishery.....	210 quintals 5.....	1,050
Mackerel do	184 barrels 10.....	1,840
Herring do	1,962 do 3.....	5,886
Halibut do	93 do 5.....	465
Salmon do	441 do 16.....	7,056
Trout do	20 do 10.....	200
Cod oil.....	83,807 gallons 50cts	41,904
Whale oil.....	11,415 do 80 „	9,132
Porpoise oil.....	62 do 80 „	50
Fish (for manure).....	2,640 barrels 25 „	660
Total value of the products of the Fisheries, 1872.....		541,471
do do do 1871.....		361,482
Increase.....		\$179,889

BONAVENTURE DIVISION.

The chain of mountains which encircles the Bay of Gaspé, and intersected by deep ravines, gradually diminishes in height as you pass to the westward in Bonaventure County. The traveller's eye tires of the monotony of the continuous mountain scenery of Gaspé, but the rich lands and pleasant dwellings bordering on the Bay des Chaleurs afford a welcome relief. The pretty white villages scattered along this coast are always a joyful sight to the mariner.

Although a large number of hands is employed fishing in this division, a very brisk fish trade being carried on, the chief part of the population is mostly engaged in agricultural pursuits; for this reason, a greater degree of comfort and prosperity is noticeable here than in Gaspé. There is still, however, a large quantity of land uncultivated, and the forest, which yet covers most of the rich soil in this county, disappears very slowly, defying, as it were, the woodman's axe.

The new establishments founded at Port Daniel, Maria, Carleton, Dalhousie, and Campbelltown, for the curing of salmon, lobsters and herring, have contributed largely to the welfare and happiness of the people of these localities, the owners being in general very liberal in dealing with the fishermen. The inhabitants, who engage in cod-fishing during the summer, after having put their crops in, are far beyond the cod-fishermen of Gaspé, since the greater part of them is enabled to live on the produce of their farms, while they manage to sell their fish at remunerative prices, obtaining cash or goods and provisions for them.

The county of Bonaventure has a coast line about 126 miles in length. It also comprises the Matapedia valley, which now numbers some 850 souls, there being ten years ago only a few straggling settlers to be found here and there. Good harbours are numerous, the best and most convenient being that of Paspebiac, where a greater or less number of vessels is always lying at anchor, especially those of the firms of Robin and Company and LeBoutillier, which are engaged in the export trade. Hereto are annexed schedules, shewing the names of vessels that entered and cleared with fish cargoes at the Custom House of New Carlisle, during the year 1872.

the fishery overseer, than whom a more intelligent efficient and trustworthy person could not be selected.

INWARD COASTERS.—PORT OF NEW CARLISLE.—Return of Vessels entered Inwards to 31st December, 1872.

Date of Report.	Vessel.	Tons.	Men.	From where.	Dry Codfish.	Cod Roes.	Her-rings.	Cod Oil.	Preserved Salmon.	Pickled Fish.	Oysters.
					Qncls.	Brls.	Brls.	Galls.	Bxs.	Brls.	Brls.
1872.											
April 27.	Industry	16	3	Percé	200						
May 21.	Dit-On	78	6	do	600						
do 27.	Commander	14	3	Caraquet	112						
do 31.	P. R. C.	104	8	Arichat	642						
June 4.	Dit-On	78	6	Percé	899						
do 4.	Commander	14	3	Caraquet	84						
do 4.	Epoque	10	3	do	138						
do 15.	Commander	14	3	do	91						
do 15.	Peace	35	4	do	293						
do 19.	Commander	78	6	Grand River	700						
do 19.	Hematope	76	6	Percé	105						
do 28.	P. R. C.	104	7	Arichat	2,540						
July 5.	Crapo	57	5	Campbelltown					919		
Aug. 25.	Prince of Wales	71	5	Quebec			300				
do 30.	Star of the Sea	59	5	Caraquet			300				
Sept. 4.	Commander	14	3	do	149						
do 9.	M. Georgian	98	5	North Shore				1,800			
do 9.	Commander	14	3	Caraquet	120						
do 9.	Ticker	96	7	do	1,832						
do 24.	Commander	14	3	do	205						
do 25.	Northern Chief	50	5	Cheticamp	605						
do 27.	Commander	14	3	Caraquet				1,929			
Oct. 1.	Comalo	95	6	do						84	225
do 8.	Hematope	76	5	Arichat	237						
do 11.	M. Georgian	98	5	North Shore	1,600						
do 11.	Epoque	10	3	Caraquet	103						
do 11.	Commander	14	3	do	226						
do 19.	Hebe	236	10	Percé	970			391			
do 19.	Commander	14	3	Caraquet	220			1,350			
do 19.	Union	193	11	Percé	255			11,340			
do 19.	Hebe	5	2	Caraquet	124					10	
Nov. 4.	Blue Nose	5	3	do	15						
do 21.	Commander	14	3	do							
do 22.	Ranger	137	8	do	1,785						
do 25.	Dit-On	78	7	Percé	1,000						
	Total	2,098	177		15,861	105	400	18,310	919	97	278

PORT OF NEW CARLISLE.—Return of Vessels cleared Outwards with Fish, to 31st December, 1872.

Date of Report.	Name of Vessel.	Tons.	Men.	From where.	Dry Codfish.	Had. dock.	Ling.	Her- rings.	Cod Roas.	Coal Oil.	Preserved Lobster.	Preserved Salmon.	Smoked Herrings.	Trout.	Pickled Salmon.	Mackerel.	Pickled Codfish.	Dried Capelin.	Cod Tongues and Soups.
					Qntrs.			Bls.	Bls.	Galls.	Bboxes.	Bboxes.	Bboxes.	Bls.	Bls.	Bls.	Bls.	Bls.	Tns.
1872.																			
May	23. Adeline.	86	6	Barbadoes	1,287	15	...	31	...	...	...	...	...	...	...	...	...	...	...
do	28. Ranger.	137	8	do	2,038	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	29. Union.	183	9	Rio Janeiro	3,188	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	29. McGeorgina	98	6	St. Vincent.	1,216	3	...	27	...	...	...	...	...	...	...	...	...	...	...
June	13. Century	181	10	Porto Rico	3,212	...	...	28	...	...	...	...	...	...	...	...	...	...	...
do	19. "83"	139	8	Demerara	902	47	19	70	...	...	...	...	...	...	...	...	...	...	...
do	22. Hematope	76	6	Jersey	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	23. Hebe	236	10	Rio Janeiro	2,588	97	...	...	195	10,430	...	...	...	...	...	...	...	...	...
do	26. Dit-On	78	6	Cuba	833	20	60	130	...	...	...	...	...	...	...	...	...	...	...
do	29. Homly	229	12	Rio Janeiro	3,485	...	...	...	...	...	...	...	...	...	...	...	...	...	...
July	1. Robin	150	9	Barbadoes	1,470	81	114	182	...	...	466	2,067	150	...	...	...	...	...	...
do	6. A. M. Young	303	7	Whitehaven	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	10. Crapo	67	3	Portland, U. S.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	18. Comalo	95	3	Newfoundland	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	24. G. D. F.	118	7	Barbadoes	188	970	...	523	...	...	...	...	...	...	...	...	...	...	...
Aug.	2. C. R. C.	248	11	do	38	75	42	464	...	...	150	...	1	...	...	...	...	...	...
do	16. Marceline	45	4	Boston	...	...	...	931	...	...	...	...	...	...	...	...	...	...	...
do	3. A. Carcand	69	7	do	...	...	...	390	...	...	...	...	...	...	...	...	...	...	...
do	10. Ranger	137	7	Porto Rico.	1,788	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	18. Teller	96	6	do	2,079	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	21. V. Blanchard	260	11	Rio Janeiro	4,150	...	...	1,122	...	...	...	...	...	...	...	...	...	...	...
do	21. Four Brothers	81	4	Boston	3,086	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	30. Glance	179	7	Rio Janeiro	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Oct.	12. G. D. F.	118	7	Great Britain	2,904	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	12. Century	181	10	Rio Janeiro	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	15. G. A. Pyke	181	6	Barbadoes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	16. Panama	392	8	Sligo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	21. "85"	139	8	Naples	3,017	...	...	700	...	...	...	...	...	...	...	...	...	...	...
do	23. Hyaline	171	7	Rio Janeiro	2,491	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	25. Nero	147	7	Bristol	3,930	...	...	...	...	...	...	...	...	...	...	...	...	...	...
do	21. C. R. C.	248	11	Rio Janeiro	3,643	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nov.	20. Homly	223	12	do	...	...	...	...	...	...	1,650	...	...	...	...	...	...	...	...

PORT OF NEW CARLISLE.

	Number.	Tons.	Men.
<i>Vessels Entered Inwards.</i>			
In the quarter ending 30th June, 1872.....	13	2,640	116
do do 30th Sept., 1872.....	35	3,329	213
do do 31st Dec., 1872.....	6	886	46
	56	6,855	375
<i>Vessels Cleared Outwards.</i>			
In the quarter ending 30th June, 1872.....	19	2,357	127
do do 30th Sept., 1872.....	34	3,852	196
do do 31st Dec., 1872.....	19	2,897	147
	72	9,106	470
<i>Coasting Vessels Inwards.</i>			
In the quarter ending 30th June, 1872.....	42	2,342	187
do do 30th Sept., 1872.....	57	2,968	249
do do 31st Dec., 1872.....	21	1,766	126
	120	7,076	562
<i>Coasting Vessels Outwards.</i>			
In the quarter ending 30th June, 1872.....	58	3,570	266
do do 30th Sept., 1872.....	64	2,903	272
do do 31st Dec., 1872.....	16	640	68
	138	7,113	606

OUTWARD COASTERS.—PORT OF NEW CARLISLE.—Return of Vessels Entered Inwards with Fish to 11th November, 1872.

Date of Report.	Name of Vessel.	Tons.	Men.	From where.	Dry Codfish.	Pickled Fish.	Dried Capelin.
1872.					Qntls.	Bols.	Bris.
26.—Sept. 4..	Adelina.....	95	6	Labrador.....	2,300	.....	.....
40.—Nov. 2...	G. D. F.....	113	8	do	400	36	4
		213	14		2,700	30	4

PORT OF NEW CARLISLE.— Return of Vessels Cleared Outwards to 11th November, 1872.

Date of Report.	Name of Vessel.	Tons.	Men.	From where.	Pickled Herring	Smoked Herring.	Dry Codfish.	Pickled Fish.	Oysters.
1872.					Brls.	Boxes	Qntrs.	Brls.	Brls.
April 22.	U. J. Tessier	44	4	Quebec.....	82	.....	.....	.....	.....
July 11.	Mary.....	19	3	Pictou.....	.....	100	.....	.....	.....
do 23.	Ripple.....	22	3	do.....	.....	40	.....	.....	.....
Aug. 13.	Reaper.....	137	7	Perce.....	.....	.....	167	.....	.....
Oct. 7.	Comalo.....	96	5	Quebec.....	.....	.....	.....	284	225
do 12.	Annabella.....	72	5	do.....	.....	.....	.....	300	.....
do 11.	Ripple.....	22	3	Campbellton.....	50	.....	50	.....	.....
		412	30		132	140	217	584	225

Paspebiac is spoken of as suitable for a harbour of refuge. This appears to be a very good idea, and I hope it may be carried out, although, to speak the truth, I place more confidence in the construction of a branch railway connecting Paspebiac with the Intercolonial Railway at Matapedia. Paspebiac harbour, as well, indeed, as the rest of the Bay des Chaleurs, which used to be annually visited by American vessels engaged in fishing for mackerel, were wholly deserted by them this season. We met none during our last cruise in the Bay, nor did the Fishery Overseers see any. Order and peace were uninterrupted in these localities.

I do not intend writing a special paragraph on the cod, herring, and mackerel fisheries of this district: the statistics appended to this report shew fully and clearly the yield of each locality. It will be simply sufficient to state that cod-fishing, from Port Daniel to Bonaventure River, was excellent, during the short space of time the fishermen could pursue it. Those of them who do not own farms usually engage with some Paspebiac firm and repair to Magpie, Thunder River, or Blanc Sablon, on the north shore. They are counted the best fishermen in the Gulf, and their services are, consequently, at a premium.

The shoals of mackerel which frequented the shores of the maritime provinces in such vast numbers this season do not appear to have entered Bay des Chaleurs, and the fishermen have caught only a few for their own use. Herring were abundant; but in consequence of the prices ruling so low, comparatively few fish were caught, and these were mostly used as bait in cod fishing and for home consumption. Four hundred and fifty barrels of herring were exported from Bonaventure county. The large stores built by Mr. Petry, at Carleton, were empty, and the hands who usually worked there unemployed, to the great regret of the people of the place, who regard this gentleman as a public benefactor. Mr. Petry has opened another establishment at the Bay of Islands, on the north-west side of Newfoundland.

SALMON FISHERY.

Nothing could more clearly and convincingly demonstrate the wisdom of the fishery laws, and the intelligence and energy with which they have been enforced, than the speedy re-stocking of the rivers which is observable between Port Daniel and the Restigouche.

In many places, such as Maria, New Richmond, and Carleton, the catch was so great at one time during the summer that large numbers of the fish taken had to be sent to the curing establishments of Restigouche, to prevent their spoiling. Port Daniel yielded eighty-two barrels of salmon last year, whereas 119 barrels were taken during the present season, being a net increase of thirty-seven barrels. With the exception of Mr. Miller, the fishermen sold their fresh fish to Mr. Brown: this gentleman put up in cans 21,760lbs. of salmon. In addition to this, he also canned several thousand pounds of lobsters. With the exception of two violations of the Sunday clause, which were summarily punished by Overseer Phelan, they occurring within his district, there were no other infractions of the fishery laws. The catch at New Richmond and Maria this summer exceeded that of all previous years. The following figures shew the results of the fishings of the last three years:—

In 1870	23,797lbs.
„ 1871	14,068 „
„ 1872	25,264 „

The catch this year being six per cent. greater than that of 1870—a most prosperous season, and about eighty per cent. over that of last year. The largest salmon netted weighed 43lbs., and the two largest taken with the fly weighed 45lbs. each: the latter were caught in the Grand Cascapedia River. The lessee of this stream and his party had splendid sport, catching in all 136 fish, being ninety-two in excess of last year. Bonaventure River did not yield so good sport, only some thirty fish having been caught in its waters, the largest of which, however, exceeded 50lbs. in weight. The accompanying statistics shew the details of the catch in the various localities of this division.

Notwithstanding the increase in the yield of salmon on this coast, I did not deem it prudent to recommend any of the numerous applications for new stations which were referred to me for report, fearing that by doing so the good effects which have resulted from past protection might be obliterated and end in failure, experience having, moreover, proved that the utmost discretion was required to be exercised in this matter. Many causes may operate to cause a failure in this fishery; and had it been possible to limit within reasonable bounds the salmon-fishing stations at Gaspé, the improvement would, doubtless, have been far more marked than it was. And, besides, I am not quite so certain that the granting of new licenses confers nearly so great benefits upon the settlers as the leasing of the rivers to anglers. Take, for example, the Cascapedia River. Apart from numerous presents and many fish distributed among their men, and the high wages paid to them, I am credibly informed the anglers on this river spent over \$350 in this locality within the short space of one month. Add to this the high rent paid for the privilege of angling, and every one will admit that it would be unjust to increase the number of stands in the estuary of a stream to the injury of the anglers. In the former case, the rental generally would be quite insufficient to pay even for the protecting of the river alone, much less contributing to the revenue; and only the individuals who have the stations are directly benefitted; whereas, in the latter, money is both more plentifully and generally diffused among the people, and the anglers protect their own river. The same remarks are equally true of the St. John and York Rivers, in Gaspé, where the spirited and generous lessee spends more in one season, outside of the rental he pays for the privilege of the rivers, than the whole number of net stations yield to the Department.

The Restigouche showed the largest increase of all the rivers of this division. It is quite possible that the number of fish which ascended the river was not greater than last season, but more were taken both with net and fly. In 1871, the long duration of the spring freshet prevented the fishermen from setting their nets until very late: this season, however, was more favourable, and they were ready for the first run of fish. According to the report of the local fishery overseer, the catch was so large, during a period of some three weeks, that from Dalhousie upwards no less than 1000 salmon, averaging 15lbs. in weight, were daily delivered to the preserving establishments of Messrs. Windsor, &c.

Dalhousie, and Howick and Haddow of Campbellton, making a total of 270,000lbs. The fishing at some stations was better this season than for twenty years past.

The anglers on the main river and its tributaries were also successful. They caught in all some 500 fish, being double the number taken last year.

Another encouraging fact, and which promises well for the future of this river, is the large number of grilse which went up to spawn, hardly any ever being observed before the enforcement of the fishery laws. Parr and smolt were so numerous as to be a positive nuisance to the anglers.

The Indians were kept strictly within the limits assigned to them for spearing, thanks to the untiring energy and activity displayed by the local fishery overseer, whose services in this connection certainly deserve some kind of recognition from the Department.

A gentleman to whom Mr. Mowat gave a permit to angle in one of the tributaries of the Restigouche, in 1865, caught fifteen salmon, every one of them bearing the mark of the spear: this year he took thirty-three fish, not one of which was wounded. This is highly creditable to the officer who has charge of this district, through whose vigilance chiefly it has been attained. I am happy to be able to state that the nets required by the Indians, to fish the station set apart from them by the Department, will be ready next spring; after which, there will no longer be any occasion to treat them differently from the white people. They do not yet seem fully to realize all the benefits they will derive from net-fishing, now that the Restigouche is in such good order, nor do they appear properly to appreciate the favour done them, so deeply is the habit of spearing rooted in them. I feel confident, however, that they will comply with the wishes of the Department. There may, possibly, be some difficulty in the beginning; but I feel quite certain that Mr. Mowat, with his customary prudence and activity, will overcome all obstacles.

LOBSTER FISHERY.

Until late years, we have not been fully aware of the resources contained in our waters, or, if they were known, they had been to a great extent neglected. In the matter of lobster fishing, the Americans have come in among us and taken the lead, they having two large establishments on the Bay des Chaleurs coast. Mr. Brown, from New Brunswick, also engages in this business to quite an extent, at Port Daniel, after the close of the salmon fishing. From June to October, no less than 280,640lbs. of lobsters were put up in cans, at Maria and Carleton. The expense of preparing the lobster for the market being comparatively small, the profits are very large. In this connection I take occasion to say that, unless some judicious measure be devised and carried out to protect the lobster, this fishery will soon be exhausted from this immense drain. It is quite enough surely that these strangers should catch our fish and realize immense profits, without impoverishing them and rendering them valueless. To such a reckless mode of fishing is now due the absence of lobsters on the coast of the United States. I was struck with the well-timed remarks of Mr. Venning, in his report on the fisheries of New Brunswick for last year, respecting the injury likely to happen to lobster fishing, if some proper close-season is not adopted. I fully concur in his opinion, and urge the carrying out of his recommendations, if possible.

THE ARTIFICIAL FISH-BREEDING ESTABLISHMENT ON THE RESTIGOUCHE RIVER.

The location of a salmon-breeding establishment by the Department on the Restigouche River will, I have no doubt, be attended with the most beneficial results to the main river as well as its tributaries. When we take into consideration the fact that this river is the chief feeder of all the streams emptying into it, and that these tributaries—many of which are large and long streams, such as the Matapedia, Upsalquitch, Patapedia, Tom Kedgwick—can afford fine sport to a host of anglers, nobody will question the wisdom of expending a small sum of money for the purpose of extending the benefits of artificial fish-breeding to this part of the Dominion. The officer in charge is Mr. Mowat, the Fishery Overseer, than whom a more intelligent, efficient, and trustworthy person could not be selected.

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms, salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Full fishing, quintals.
Anse au Gascon.	22	4			48					2					50	90				650	1,040
Anse à la Barbe.	6	5			17					2					20	80				275	200
Port Daniel	46	7			99										130	1,198				1,488	730
Point Loup																					
Marin to S.W.																					
Pt. Pt. Daniel		36			36					3					40					540	150
Chigouac.	6	3			15					2					29					150	100
Nouvelle	26				52					3					50					1,040	780
Paspebiac	4				8					4					4					60	144
New Carlisle	30	30			60	213		19	17					30	30					1,200	730
Grand and Little Bonaventure.	52	52			104	72		25	14					52	52	350				1,800	1,550
From Capelin River to Grand Cascapedia	7	3			14	7				1				7	7	1,637	30			140	90
Maria	5	22			25									15	90	3,000		3			
Carleton	4	20			20					2				10	70	2,000		2		50	
Nouvelle	1	14			15										20	1,000					
Magnasha		1			1											200					
Fleurant's Pt.		2			4											600					
Englishman's Brook		1			1											150					
Escuminac Pt.		1			1											150					
Pt. à la Garde		1			2											200					
Battery Point		1			1											70					
Little Battery		1			1											50					
Cross Point		1			2											180					
Bourdon Point		2			3											450					
Total	209	207			529	292		44	50					114	583	11,475	30	5		7,393	5,53

RECAPITULATION.

Value of the different fisheries of Bonaventure Division.

Summer Cod-fishery, -	7,393 quintals at \$4	-	-	29,572
Autumn do -	5,554 do 5	-	-	17,770
Cod tongues and sounds -	25 barrels at 8	-	-	200
Haddoeek fishery -	133 quintals at 5	-	-	665
Ling do -	26 do 5	-	-	130
Mackerel do -	104 barrels at 10	-	-	1,040
Herring do -	9,575 do 3	-	-	28,725
Salmon do -	791 do 16	-	-	12,656
Trout do -	15 do 10	-	-	150
Eel do -	25 do 10	-	-	250
Smoked herring -	260 boxes at 25 cts.	-	-	65
Cod-oil, -	998 gallons at 50 "	-	-	499
Fish (for manure) -	7,136 barrels at 25 "	-	-	1,784
Preserved Lobsters -	88,320 lbs. at 20 "	-	-	17,664
Total value of the products of the Fisheries, 1872, -				\$120,970
Do do 1871, -				102,087
Increase, -				<u>\$18,913</u>

MAGDALEN ISLANDS DIVISION.

It would have given me great pleasure had I been able in this report to record some material progress made by the inhabitants of Magdalen Islands, and to speak of their position as improved, but, unfortunately, the tale to be told is a sad one. Domestic poverty and misery are the rule. Most of the population are getting discouraged: famine is daily becoming more threatening; and according to the latest information received, grave apprehensions of want were entertained for the coming winter.

Although the harvest and fishing of 1871 were comparatively good, the rigorous winter and late spring of 1872 necessitated the use for food of all the stores of provisions the inhabitants had garnered—even their seed grain. When seed-time arrived, no seed remained; nor could any grain be had, even for its weight in gold. I have known fishermen from Amherst Island whom necessity compelled to give sixty barrels of herring for one barrel of potatoes, as recently as last June; from which it will be easily seen that they must catch an enormous quantity of fish with which to procure sufficient provisions to put them through the coming winter. The various kinds of fishing around the islands were successful; still, owing to the improvident habits of the fishermen on the one hand, and the low prices they obtained for herring on the other, they have scarcely gotten enough stores to keep them, with the practice of the most rigid economy, during the approaching long and tedious winter and spring. When one sees the state of destitution to which these islanders are so frequently reduced, and the repeated recurrence of unsuccessful fishing seasons, it is a matter of wonder how they can so persistently trust alone to this precarious mode of subsistence, when an easier and better means of making a living, and becoming independent even, lies within their reach. The soil of these islands is fertile and free from stone: it is easily cultivated and yields good returns. But they do not heed these advantages. It would seem as if some fatality hangs over these honest, sturdy people, preventing them from understanding their best interests.

When they are in straitened circumstances, they attribute this misfortune to various causes, such as exorbitant taxes and the high prices they have to pay the merchants for provisions; but they do not seem at all to comprehend the great benefits they would reap, were they to chiefly follow farming, for in this way they would not render themselves liable to be imposed on by merchants, and their taxes, which are in reality much lighter than those of our own villages, would not press hardly upon them.

Frightened at the more than probable return of famine and distress with the coming winter—disgusted by repeated ill success in fishing, and smarting under grievances more imaginary than real from the local authorities—some thirty families, numbering about one hundred souls, determined to leave their native islands this fall. Several of them emigrated to Esquimaux Point, the remainder to Seven Islands, to form a new settlement there. A real mania for emigration seemed to possess these people last summer; several went even so far as to sell their farms and cattle at a great sacrifice, in order to obtain means the sooner to leave the islands. I know a settler on Amherst Island who offered his farm, consisting of eighty acres, with buildings, &c., very fertile and free from stone, being quite ready for the plough, for the paltry sum of \$160. Many disposed of their farms at ridiculously low prices; and such is the apathy of these islanders to agricultural pursuits, that purchasers, even at these low prices, could not be found. Indeed, most of those who left the Islands had to go without being able to sell their farms. It is matter for regret to see productive lands so recklessly abandoned, and I would consider myself greatly to blame did I encourage this emigration. Strangers coming now to settle on these islands would find the present a favourable opportunity, and would soon become comparatively independent and wealthy.

From 1761 to the years of the present century, the Acadians who came and settled at the Magdalen Islands had no taxes whatever to pay, which, after the sufferings experienced by them in Acadia and on the road to exile, must have made them feel exceedingly happy in a locality in which they had to account to nobody for their deeds and sayings. When, however, the rightful owner appeared and claimed rent from the peaceful occupiers, disappointment was great, and lawsuits lasted for many years. Right at length prevailed; and from that time the settlers became disgusted with their position, and some families abandoned the islands every year, in order to seek elsewhere a spot where the only laws in force are those prescribed by nature. The children of these people have imbibed their aversion to taxes, and it is with difficulty that they can be brought to submit to the laws by which other people are governed and which are made for the benefit of all. Owing to these dispositions, they abandon their homes apparently without regret, which certainly one must conclude is the chief cause of their want of success; for so soon as they settle in other places they work energetically, and, though commencing life thus anew and with reduced means, soon become tolerably well-to-do.

The population of the Magdalen Islands amounted to—

2202 souls, in	1851
2651 " 	1861
3172 " 	1871

Of this number, about 100 emigrated this last fall.

The number of schooners belonging to the islands was—

37, in	1851
38, " 	1861
20, " 	1871

The decrease is due to the above emigration this year.

The number of fishing-boats was—

100, in	1851
232, " 	1861
313, " 	1871
257, " 	1872

On our departure from Quebec, we were instructed to sail for Anticosti, and relieve the vessels which had been wrecked there; this, consequently, delayed our arrival at the Islands, and we did not reach there till the 18th June. We there fell in with the marine police cruiser, *S. G. Marshall*, Commander Tory, which had arrived there only a few days before, this vessel, along with many others bound for the Islands, having been detained by the ice. The Commander informed me that peace and order had prevailed since his arrival; and it is my pleasant duty to add that this state of things existed throughout the fishing season.

SEAL HUNTING.

Seal hunting, which is practised in the spring on the floating ice brought on the shores of the Islands by north-west winds, utterly failed this year. These animals were seen by thousands on the ice fields, but prevailing north-east winds prevented their pursuit. This fishery failed also in 1871, and only 6,000 seals were killed in 1870. Thirteen schooners, manned by 130 men, fitted out for seal hunting this season, but had poorer luck even than last year. The utmost difficulty was experienced in launching their vessels, which could not be accomplished earlier than the end of April. Then they had to cut their way through the ice for a distance of two miles; and when once they got under weigh, they met such fields of ice in the Gulf that they could not reach the seals. They killed only some 1,713 seals, whereas they took 2,200 last year, and 8,813 in 1870.

For the past two years, attempts have been made at Port aux Basque, on Amherst Island, and at old Harry Head, on Coffin Island, to set sedentary seal-nets, as practised on the coast of Labrador. Seals frequent these shores in large numbers during the spring, in search of the herring shoals which enter Pleasant Bay. One hundred and two of these animals were thus caught with three hundred and sixty fathoms of net; and twice this number would have been taken, had not the bay been blocked up by floating ice. Mr. de Quetteville, of Jersey, who owns this fishery, is well satisfied with the above result, and he is sanguine that, should accidents not interfere with his business, he will succeed. It is his intention to extend his operations next year.

HERRING FISHERY.

Herring struck into Pleasant Bay about 3rd May, but, owing to the accumulation of ice there, they could not approach the shores before the 13th May. The fish were so numerous that they were caught from the decks of schooners. On account of the low price of herring in the market, and the great difficulty experienced in reaching the Islands, several schooners turned back, and only about twenty sail arrived for the spring fishing. Of this number, thirteen belonged to various United States' ports. The first vessel arrived on the 19th May. No less than 110 schooners visited these Islands in 1870, and this number had fallen to 45 in 1871.

I took occasion in my last report to allude to the little forethought evinced by the Islanders in providing means for successfully prosecuting the herring fishery, upon which they mostly depend for the support of themselves and their families when the other fisheries or the harvests fail; but never was that improvidence of the future more clearly seen than during the past year, and never was it followed by such disastrous results. Up to this year, only a few of the most prudent and enterprising of the fishermen had sufficient forethought to secure previously the salt required for the curing of their fish: the remainder always depended upon the local merchants and strangers for their supply of this article. But when salt arrived too late at the stores, or the foreign fishermen had no need of the services of the Islanders, their position became rather precarious. It happened thus this year. For several years past, the owners of foreign fishing vessels used to repair to the Islands with about half the number of men required to secure a prompt cargo, engaging fishermen from the Islands to help them. The latter received salt in payment for their services, and were enabled to secure some fish for their own use, if the fishing was not over. They frequently took advantage of the foreigners, and overcharged them; in consequence of which, foreign vessels began to make their voyages with

full complements of men; this year especially, every schooner from abroad was manned with a complete crew, and for want of salt the Islanders were unable to take advantage of the splendid run of fish, while the limited quantity which was pickled was prepared in a bad condition. Several of these poor fishermen, unable to procure the necessary salt to preserve their winter's supply of fish, have been seen gathering the pickle flowing from the vessels' pumps, and with this stuff pack away the fish required for the sustenance of themselves and their families for the very long winter. One can imagine from this in what a state of destitution these people will be next spring. If such a lesson would be a warning to them in the future, it would be well; but I cannot guarantee it. The catch by foreign schooners this year amounted to 14,806 barrels, while the people of the islands took 2,956 barrels.

MACKEREL FISHERY.

Although spring mackerel fishing began three weeks later than usual, and the prices were low, still a large number of fish were caught. Only a few of the Islanders are enabled to pursue mackerel fishing, owing to the expense of outfitting: they took in all, 735 barrels. Twenty United States' schooners fished in Pleasant Bay this year, and seven from Nova Scotia: the catch of the latter amounted to 1,470 barrels.

Summer fishing was much inferior to what it was in 1871, but the fish were of a larger size. The Islands' Fishermen caught 295 barrels this year; last year they secured 3,841 barrels. Only twenty-five American schooners engaged in the mackerel fishery around the Islands, from July to September.

COD AND HALIBUT FISHERY.

Cod fishing began considerably later than usual, and fewer fishermen fished, yet the yield exceeded that of last year by several hundred quintals. Eighteen schooners repaired to the North shore to fish, but they were not successful, not happening to visit the right places at the right times; after waiting for five or six weeks, the majority had to return with half cargoes, and a few of them even with less. It is generally conceded that this season's cod were of a larger size than usual, the fishermen claiming that this is due to the fact that the cod-fishing banks around the Islands were not visited this season by either the French or Americans. I will not attempt to say how correct this opinion may be. Besides those who fished on the north shore, about one hundred went to Blanc Sablon, and fished on shares for Mr. de Quetteville. This has reduced the yield around the Islands considerably. The total quantity taken was 21,032 quintals, of which 7,430 quintals were caught on the North shore.

The halibut fishery is not specially followed; about forty barrels, however, were caught, most of which were used in local consumption.

According to Mr. Fox's statement, it appears that several American vessels visited the Islands, in order to purchase cod-sounds, from which gelatine is prepared in different establishments in the United States. A party who had a contract for a large quantity of sounds offered as much as eight cents a pound for them, whereas heretofore they have been generally thrown away with the entrails of the fish. Should the demand for this article continue, a new industry will thus be created, which will yield excellent results in good fishing seasons.

AMHERST HARBOUR.

The deepening of Amherst Harbour was carried on this year with the greatest activity, no less than 11,170 tons of rock having been blasted and cleared away. Mr. Rosa expected to have had the work completed this fall, but the rock which remains is so hard that he will not be able to finish it before the middle of next season. When this work shall have been completed, the channel leading into the harbour will be from thirteen to fourteen feet deep and sixty feet wide, at the highest spring tides.

RETURN OF FISHING STATIONS, kinds of Vessels, number of MAGDALEN

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of Sailors.	No. of fishermen.	No. of shoremen.	No. of Codfish seines.	No. of Mackerel seines.	No. of Herring seines.	No. of Capelin seines.	No. of Lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fath. of salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
<i>Amherst Island.</i>																					
Pleasant Bay...	7	41	4		108	108		1	2		22		144	8					339	2086	30
Basin		17			40	40							37	6						1055	60
Mill Cove.....		9			23	23							91	17						845	71
Anse à la Ca-																					
bane.....		33			78	79							79	49						2980	300
West Cape.....		5			12	12									7					376	20
<i>Grindstone Island.</i>																					
Etang du Nord..		44			114	114								6	22					4690	1950
Cape Mull.....																					
<i>Alleret Island.</i>																					
House Harbor..	13	45	48		130	130				7									1294	4735	
West side Grand Entry																					
L'Anse à Elie..		5			10	10								5						102	
L'Echourie		1																			
Pointe Basse..		20			2	2								1						25	
South Beach....					41	27							8	15						367	
<i>Coffin Island and Grosse Isle.</i>																					
.....		11			22	22					3	0		13					80	314	5
<i>Bryon Island</i> ...		15			32	32								4	10					374	116
<i>Entry Island</i> ...		9			18	18								28						131	
Total.....	20	257	52		630	617		1	9		322		397	153					1713	17480	2323

Men, kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.
ISLANDS.

KINDS OF FISH.											OILS.				FISH USED AS MANURE.				REMARKS.		
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.		Smelt, barrels.	Cod roes, barrels.
.....		317	1293	.....	.....	.....	.....	.....	.....	.....	.....	1810	.....	.....	.....	1091	.....	.....	.....	.....	.....
.....		74	102	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	560	.....	.....	.....	.....	.....
.....		213	125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	480	.....	.....	.....	.....	.....
.....		127	276	.....	.....	.....	.....	.....	.....	.....	.....	.....	2162	.....	.....	1560	.....	.....	.....	.....	.....
.....			38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	189	.....	.....	.....	.....	.....
.....			436	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2240	.....	.....	.....	.....	.....
.....		7	48	.....	.....	.....	.....	.....	.....	.....	.....	5730	.....	.....	.....	2651	.....	.....	.....	.....	.....
.....		20	63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	51	.....	.....	.....	.....	.....
.....		5	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....
.....		244	188	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	102	.....	.....	.....	.....	.....
.....		44	179	.....	.....	.....	.....	.....	.....	.....	.....	500	.....	.....	.....	110	.....	.....	.....	.....	.....
.....		51	132	.....	.....	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	205	.....	.....	.....	.....	.....
.....		60	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	56	.....	.....	.....	.....	.....
.....		1172	2956	.....	.....	.....	.....	.....	.....	.....	.....	8040	2162	.....	.....	9305	.....	.....	.....	.....	.....

RECAPITULATION.

Value of the different fisheries of the Magdalen Islands Division.

Summer Cod fishery,	17,480, quintals @	\$4.....	69,920
Autumn "	2,552 "	5.....	12,760
Mackerel fishery,	1,172 barrels	10.....	11,720
Herring "	2,956 "	3.....	8,868
Halibut "	36 "	5.....	180
No. of Seals,	1,713	6.....	10,278
Seal Oil,	8,040 gallons,	80cts.....	6,432
Cod Oil,	9,306 "	50,,.....	4,653
Whale Oil,	2,162 "	80,,.....	1,730
Total value of the products of the fisheries, 1872.....			\$126,541
" " 1871.....			133,089
Decrease.....			\$6,548

LABRADOR DIVISION.

This division extends from Pointe des Monts to Blanc Sablon, a distance of above 400 miles, and would not be inferior to the other divisions of the Gulf of St. Lawrence as regards its wealth and resources, were it not for the fact that its climate and soil are alike unfavourable to the growth of vegetation. The settlers depend for their subsistence solely on the produce of the sea; and in case this fails, they have absolutely nothing to fall back upon. The wealth of the waters bordering on these shores appears to be almost inexhaustible, and apparently increases with each succeeding year; but times do now and then occur when it would seem as if the migrations of fish were subject to mere caprice, as, for example, in the years 1865, 1866, and 1867, when many of the settlers, fearing the rigour of winter on this dreary coast after three successive years of failure in the fisheries, migrated to other parts of the coast less austere, while those who remained behind suffered the greatest privation and want. This part of the coast of Labrador, known under the name of *North Shore*, and extending from Natashquan to Blanc Sablon, is occupied by a scattered population exclusively engaged in fishing. It would have become entirely depopulated, had not the following years of 1868 and 1869 brought plenty in their train, and restored hope once more in the breasts of the remaining inhabitants. Since the year 1868 fish have been very abundant in these waters, and the fishing industry has in consequence steadily increased.

Not many years ago, these shores, on which are now situated at different intervals four or five pretty villages, which are annually visited by hardy and industrious fishermen, were the exclusive property of opulent individuals or companies, who claimed for themselves the right to farm these immense resources without let or hindrance, and to the exclusion of all comers; but from some cause these companies dissolved partnership—individuals relinquished their monopoly, after, however, in most cases having made their fortunes—and now these places are open to all new settlers.

The fisheries of these shores, especially those of the so-called *North Shore*, were visited by Europeans as early as the fourteenth century, and Jacques Cartier mentions having met on his first voyage, abreast of Napitippi River, a fishing vessel returning to Europe. The ruins of old forts and fortifications still to be seen at several places, as at Old Fort, Bras d'Or, and Bonne Esperance, go to prove that the fishing pursuits were conducted on a large scale.

The whale and seal fisheries are those which were formerly mostly engaged in and successfully pursued; but whales and seals having now become scarce in the Gulf, the cod, salmon, herring, and mackerel fisheries are those now mainly prosecuted, of which cod fishing is the most profitable. As already stated, some of the settlers on this coast realized moderate fortunes. Several were wise enough to make provision for the future; but others, placing too much trust in the everlasting abundance which the sea brought them, foolishly spent their hard-earned gains, and have now to struggle through hardships and discomfort to recover some of the comforts of old times. If, however, the fishermen of this coast are no longer in affluence, they have gained wisdom and experience which will serve them well; and now that the supply of fish, especially cod, is almost boundless, and the prices rule higher, they are greatly encouraged, and I feel quite sure that they will be prepared for any future emergency.

In addition to the resident fishermen, this coast, especially the western part of it, is annually visited by fishermen from Bay des Chaleurs and parishes below Quebec, who repair thither to fish for themselves or fish on shares for the large cod-fishing establishments. Most of the large Gaspé firms have branch establishments on this coast by no means inferior to those at Paspébiac and Gaspé Basin. The following Canadian firms, Messrs. Blais and Bélanger, of Montmagny, Sirois and Bélanger, of L'Islet, and Charles Hamilton, of New Carlisle, have succeeded, by dint of great energy, perseverance, and intelligence, in establishing and prosecuting their fishing operations on a large scale side by side with their powerful Jersey rivals. They employ from eighty to ninety men each, which are in no way inferior to those of their neighbours, with whom they are on the most friendly terms. If the south shore has certain advantages over the north shore, the latter exceeds the former in the facility and security with which fishing operations can be carried on. Cod is taken near the shore; harbours of refuge are numerous and easy of access; and in not a few places fishing can be pursued daily without hindrance. These advantages, coupled to an almost unlimited supply of fish, could not fail to attract fishermen from less inviting parts of the coast, who now come there to settle from all parts of the Gulf; and a great increase has taken place in the population, especially of the western part of the coast. The favourite localities are Natashquan, Esquimaux Point (to which twenty families emigrated during the past summer from Magdalen Islands), St. John River, Magpie, Thunder River, Moisie, and Seven Islands, which latter settlement received an accession this fall of twelve families from Magdalen Islands. On the eastern part of the coast, the increase in the population is not so noticeable: fishing has however been so uniformly successful for the past five years, that it will induce, it is said, a large immigration from Newfoundland next spring.

The part of the Labrador coast now under review is also frequented, during the summer season, by citizens of the United States, who have, under treaty, the right to fish from Mont Joli to the Hudson's Bay Territory, by vessels from the maritime provinces, Newfoundland, and the Magdalen Islands. The resident population are engaged in hunting during the winter season; but cariboo, mink, and martin, which were formerly very abundant, have now become so scarce that it hardly pays.

Fish and fur being the only staple products of this coast, the inhabitants must look elsewhere for clothing and provisions necessary to enable themselves to live with any degree of comfort at all. These are purchased from Quebec, Halifax, and Gaspé. The amount of business transacted on this coast is really amazing. No less than ten large schooners were engaged during the whole of last summer in carrying goods and provisions thither; and competition is so keen that most of the goods can be had on the spot cheaper than at Quebec.

The resident population numbered, in 1853, 1,408 souls; in 1861, 4,413; and it is now double this. That part of the coast lying between Pointe des Monts and Kegashca has doubled itself.

Prior to the year 1834, the settlers on the North shore were left to govern themselves, being without any one either to interpret or enforce the law; but at this date it became plainly the duty of the Government to appoint some one to proceed thither to

enforce order and the observance of the law. Accordingly, Dr. Fortin was named Stipendiary Magistrate for the Gulf and Lower St. Lawrence. The Government placed at his disposal an armed schooner, *La Canadienne*, to enable him to carry out his authority; since which date, offenders have been summarily brought to justice and punished, and peace and security have been maintained, to the great advantage of the people. At Confederation this magistracy became vacant, and the re-appointment of an officer devolved upon the Government of Quebec. The rapid augmentation of population and trade, and the large increase of foreign fishermen, occasionally bred disturbance and disorder; taking which into consideration, as well as the probability of their yearly recurrence with increasing traffic, the Government, in 1870, appointed a magistrate for the North coast. This officer, however, resides at Murray Bay, which is at a great distance from the fishing settlements over which his supervision extends. I am of opinion that the object in view in making this appointment would be more surely attained by the magistrate's residing at one of the large fishing centres, at least during the fishing season. The wisdom and utility of this nomination cannot be fully appreciated or understood by the settlers on the coast, since the magistrate resides hundreds of miles from them, and only visits their villages once a year, and that in the summer, at a time when the greater part of the men are absent from their homes fishing, and only the women and smaller children are to be found.

The coast of Labrador is divided into six fishery districts, for purposes of protection and guardianship, namely :—

Moisie,
Mingan,
Watsheeshoo,
Natashquan,
St. Augustine, and
Bonne Esperance,—

The whole being under charge of intelligent fishery overseers and guardians, directly responsible to the officer in command of *La Canadienne*, and under his immediate control. The respective duties of these officers were efficiently performed during the past season.

Whilst speaking of the various kinds of fishing pursued on the North Coast, I shall touch again upon several points of which only bare mention has been made. And first, then, I shall notice the salmon fishery, which, if not the most important in a commercial point of view, certainly offers the greatest inducement to those taking an interest in the welfare of this part of Canada.

SALMON FISHERY.

Salmon fishing was not generally so good as was expected from the large numbers of fish observed on the spawning beds during the fall of 1871. The actual yield would, however, have been double of what the returns shew, had not rough weather and heavy easterly winds, which lasted until the middle of June, prevented the early setting of nets. In the two divisions of St. Augustine and Bonne Esperance, in addition to unfavourable weather, floating ice kept near the shore so long that the nets could only be set altogether for the space of five days. In spite, however, of these drawbacks, and the poor success met with in the two divisions above named, the catch was so good elsewhere that the total quantity of salmon caught this year exceeds that of last season—the yield, in 1872, being 2,465 barrels; in 1871, 2,386 barrels. Moisie, Natashquan, Trinity, and Magpie Rivers gave the largest yield. Eight hundred barrels were taken at Moisie, and four hundred and ten at Natashquan. The yield at the latter place would have been much larger had the licensee begun setting his nets earlier. The stands outside the rivers did exceedingly well, especially those west of Moisie and Trinity. The unsuccessful fishermen should not, however, feel discouraged, when they consider that the salmon which escaped the nets were thus enabled to reach their spawning beds, and that, other things being equal, the success will be all the more certain next season. The several local fishery overseers, moreover, agree in saying that they have seldom seen such large numbers of

fish on the spawning grounds. The intelligent lessee of the Moisie River, Mr. Holliday, who has done and is still doing so much for the re-stocking of this fine stream, and to whom we are indebted for supplying our markets with fresh salmon all the year round, at prices which bring them within reach of the rich and poor alike, confers a great benefit upon the fishermen of this division by buying their fish at remunerative prices, the only expense incurred by them being for catching them. He has in this way bought, fresh for the Quebec market, all the salmon caught at Natashquan, St. John, and Trinity Rivers. This enterprising gentleman spares neither expense nor pains in re-stocking his river, while the fishery stands on the parts of the coast adjacent to the Moisie must also annually reap great benefit from his operations. He has established and keeps at his own cost an artificial salmon-breeding establishment, on a small stream falling into the Moisie River. Taking into consideration the difficulties which hamper, to a greater or less extent, all new enterprises, and especially in this line, this undertaking has already given very satisfactory results and promises well for the future, now that the difficulties and causes of failure are better understood. I shall have occasion in a special paragraph to speak more in detail of this establishment of Mr. Holliday.

The large numbers of salmon ascending the rivers of this division did not fail to attract the attention of sportsmen, and their expense and trouble were more than compensated by the success with which they met. Messrs. Ogilvie and Turner, who angled the Moisie, took 217 fish in the short space of three weeks, the largest fish weighing 37½ lbs. Mr. McFarlane, who angled the Mingan for a few days only, caught 157 salmon and above 250 large trout. St. John River yielded 140 fish; and the sport is said to have been most encouraging at Natashquan. Mr. Holliday has remarked to me that the average weight of salmon taken this season at Moisie is twenty-two pounds; last year it was eighteen.

Two Indians and three white men were apprehended and found guilty of violating the fishery laws; the former at Trinity, the latter at Grand Watsheeshco River. Among these was a noted poacher, Théodé Pilote, from Esquimaux Point, who for years past had made a living by illegal fishing, and set at defiance the authority of the fishery overseer. The exemplary punishment which he had meted out to him will be sufficient, I doubt not, to permanently cure him of his bad habit, and convince him as well as others that, sooner or later, the strong arm of justice is sure to grasp the culprit.

Agreeably to your instructions of the 26th of June last, directing me to enquire into and report upon certain complaints made by persons employed in connection with the mining establishment at Moisie, against the present lessee of the Moisie River, I had the honor to submit to you a special report on this matter. It is, therefore, unnecessary for me to reiterate it here. The result of this enquiry cleared Mr. Holliday of all blame, the accusations levelled against him being plainly proved to have been the work of envious and designing parties. I have not the least hesitation in stating that the interests and preservation of the river could not be placed in better hands. The lessee quite well understands that he is the person chiefly interested in the re-stocking of the river. He conducts his salmon-fishing operations on just principles; and the fact that the catch in 1860, with 108 nets, was only 320 barrels of salmon, while it was upwards of 800 barrels in 1872 with about thirty nets, speaks most distinctly for itself in favour of the present holder. It may be that his success in artificial fish-breeding has not been so marked as could be desired, but Mr. Holliday appears to have spared neither trouble nor expense in placing on the grills a large quantity of salmon eggs. Let every one understand that these operations are conducted entirely at Mr. Holliday's private cost. He constructed the buildings, moreover, at his own expense; nor, so far as I am aware, has he yet had any advice or instruction from the practical and scientific gentleman at the head of the Government fish-breeding establishment at Newcastle, Ontario. The operations are so delicate, and the manipulation so difficult, that it is only a matter of surprise that he has succeeded so well as he has. Increased experience and a better knowledge of the details of the work will enable him to achieve greater success in the future. As things are now, the Department has certainly no cause for regret that the river is in such trustworthy

hands. When at this establishment this summer, I was informed by Messrs. Molson and Darling, that they had caught and released about ten young salmon while trout-fishing at the foot of the falls, which proves that the young fry has prospered and were now seeking the sea. The salutary lesson taught by the investigation above alluded to will be remembered, doubtless, for some time to come by those parties who tried to harm Mr. Holliday.

COD FISHERY.

Until some forty years ago, cod-fishermen were few and far between on the North Coast; and it is only since the former occupants, who claimed the exclusive right of fishing and hunting, relinquished their pretensions, that the south shore fishermen, finding their own fishing-grounds failing, repaired thither in quest of better fishing. The first settlers, being engaged in the more remunerative pursuit of seal-hunting, paid no attention to the cod. The very limited quantity caught was for family use; but the wealth of these "banks" was soon found out, and strangers began to visit the different fishing places, at first in small numbers, but during the last two years more numerous. The increase in the yield of codfish of late has been so large that it has frequently been found impossible to cure the whole of them, either on account of unfavourable weather or for lack of salt. Owing to the prevalence of strong north-east winds, fishermen could not reach the "banks" until late in the spring, which may account for the catch being in some places not so large as in 1871. But, generally speaking, greater success could not be desired than that of the past season. The total catch for 1872 was 60,591 quintals (not reckoning an almost equal quantity taken by foreign schooners), that for 1871 being 65,597 quintals. Cod was taken in places which for years had been abandoned, as for instance at the Bay of Seven Islands, where there was fishing the whole summer. At Mingan Harbour, where cod had never before been taken, five to six quintals were taken daily during the latter part of July. On the eastern part of the coast, cod-fishing is mainly carried on by strangers, the settlers still pursuing the less profitable and more uncertain seal fishery. They are, however, beginning to fish for cod by degrees; and this kind of fishing being so much easier and less hazardous than seal fishing, and at the same time more remunerative, I doubt not that they will pursue this industry more systematically and with increasing success.

I was unable to collect as complete and reliable statistics as I desired of the number of schooners which frequented the North Shore during the past season. The following schedules will, however, serve to shew that a very large traffic is carried on in these out-of-the-way places.

STATEMENT of the number of vessels engaged in the fishing or coasting trade in the Division of Moisie, during the season of 1872.

Description of Vessels.	Name.	Port.	Master's Name.	Owner's Name.	Number of Men.	Tonnage.	Cargoes.	Number of Voyages.
S. S.	Beaver	Quebec	M. Carbonneau	J. H. Holiday	12	99	General	1
Schooner	Florida	do	C. Blodreau	do	5	10	do	3
do	Arel	do	O. Carbonneau	do	5	53	do	5
S. S.	Mary'sta Stevenson	do	J. Brown	M. Molsen	17	66	do	17
Tow-boat	Gipsy	do	G. Boucher	do	5			
Schooner	Adelaide	Moisie	Thos. Boulanger	Blais & Delanger	4		500 Brls. fish.	4
do	Prinrose	do	N. Lebrun	do	3		500 do	8
do	Madeleine	do	D. Roullane	N. Sylvain	4		600 do	1
do	Mario Louise	Rimouski	E. Tremblay	do	3		250 do	5
do	St. Anne	do	M. Lapointe	do	3		300 do	2
do	Mary	Quebec	E. Desjardins	do	4		225 do	3
do	Henry	do	E. Girard	do	3		100 do	1
do	Francis	Peasmont	J. Turgeon	do	3		150 do	3
do	Madeleine	do	Blais & Co.	do	3		300 do	2
do	Florida	Quebec	D. Chouinard	Blais & Co.	4		1100 do	1
do	Imperatrice	do	C. Leblanc	C. Leblanc	4		42 fresh Salmon	3
do	L'Isle de Mor.	do	C. Lisotte	C. Lisotte	4		35 do	4
do	Mario Emma	do	Merier	Merier	4		40 do	2
do	Dunkith	Shelburn	D. Morrison	do	9	41	Codfish	
do	J. B. McKenzie	do	B. McKenzie	do	9	41	do	
do	Forest Queen	do	C. Downey	C. Downey	10	43	do	
do	Morning Star	Liverpool	J. W. Gow	J. W. Gow	8	35	do	
do	Lettitia Thorley	Shelburn	J. C. Cook	J. C. Cook	10	44	do	
do	Minnie Haika	do	do	do	7	20	do	

These schooners made their load in less than ten days.

STATEMENT of the number of vessels engaged fishing in the Mingan Division, during the season of 1872.

Description of Vessels.	Name.	Tonnage.	Port.	Master's Name.	Owner's Name.	Men.	Cod-fish.	Remarks.
Schooner	Marie Helene	26	Quebec	P. Fournier	P. Fournier & A. Blais	3	.....	Trading voyage.
"	Mermoid	.....	Gaspé	John Robert	Wm. Hyman	4	.....	Bringing salt.
"	Hasty	46	Jersey	N. Bernier	J. & E. Collas	5	105 drafts.	Taking dry fish.
"	St. Ann	48	Gaspé	A. D. Hunt	A. D. & W. Hunt	5	.....	Taking fishermen, &c., to New Carlisle.
"	Isabella	46	New Carlisle	J. Garrett	C. Hamilton	4	.....	Fishing voyages.
"	Marie Adeline	13	Quebec	Frs. Caron	Frs. Caron	3	75 drafts	2 brls Halibut.
"	Marie Adele	18	Rimouki	E. Ouellette	E. Ouellette	4	.....	Bringing goods to Mr. Sirois
"	Irene	35	Quebec	F. Lamarre	F. Lamarre	4	.....	Freighting voyage.
"	Sun Star	21	Halifax	T. Le Gros	T. Le Gros	3	.....	Taking fish to Paspébiac.
"	Pabos	44	New Carlisle	F. LeBlanc	F. LeBlanc	6	.....	Bringing lumber to Thunder River.
"	Gleaner	60	Gaspé	W. Delaney	Le Pontillier Bros.	7	.....	Taking dry fish to Gaspé.
"	Speedy	66	Gaspé	B. Aslin	J. & E. Collas	7	.....	Green fish to Quebec.
"	D. H. P.	30	Halifax	S. Doyle	Chs. Aher	4	.....	Trading voyages.
"	St. Anne de Beaumont	66	Quebec	F. Corriveau	D. Turgeon	6	.....	do
"	Frank	54	"	L. Lachance	L. Lachance	5	.....	do
"	St. Charles	30	"	Hubert Blouin	J. B. Blouin	4	.....	Freighting and trading voyage.
"	Independence	52	"	A. Jones	A. Jones	5	.....	Trading voyage.
"	Java	68	Halifax	A. Romkey	A. Romkey	5	.....	do
"	Matilda	15	"	Isidore Landry	J. Nelson	3	.....	do
"	M. E. Purdy	65	"	J. A. Pitts	J. A. Pitts	6	.....	Buying fish and trading.
"	Spotless Queen	38	"	W. Arnold	W. Arnold	4	.....	Chartered for fish.
"	Marie Valentine	70	Quebec	J. B. Mercier	J. B. Mercier	4	.....	Taking salmon & trout from R. to Quebec.
"	Paspébiac	54	New Carlisle	John Moulin	C. Robin & Co.	7	.....	Dry fish.
"	Speedwell	87	Goole G. B.	John Raddings	Jas. Dudding	5	.....	Loading dry fish.
"	Marie St. Croix	15	Quebec	R. Fortin	R. Fortin	3	.....	Taking fish to Quebec.

STATEMENT of the number of Schooners engaged cod-fishing in Mutton Bay during the season of 1872.

Name of Vessels.	Port.	Master's Name.	Tonnage.	Men.	Boats.	Remarks.
Nile.....	Halifax.....	Robinson.....	20	7	3	These vessels were furnished with 13 capelin nets and 5 cod-seines. The greater number of them arrived too late, and could not complete their cargo. Several schooners which had visited the place a few weeks previously made a successful voyage. More than a hundred others schooners have been engaged cod-fishing in the different Bays of the Labrador coast and have been equally successful, but the overseers did not take their names.
Busy Bee.....	Bay of Islands.....	T. Bound.....	15	2	4	
Flash.....	Fortune Bay.....	M. Kinsella.....	40	2	8	
P. C. Hill ..	Halifax.....	T. Helchey.....	25	2	9	
Ewens.....	Sydney.....	Spencer.....	33	3	9	
Whisper.....	Halifax.....	G. Helchey.....	25	2	9	
Marie Flore ..	Magdalen Islands.	C. Boudreau.....	32	4	10	
Marie Louise.	"	G. Cormier.....	21	2	7	
Four Sisters..	English Harbor...	T. Mate.....	25	2	5	
Esperance....	Magdalen Islands.	E. Bourgeois.....	51	4	13	
L. Painchaud.	"	Cormier.....	36	3	10	
Cutter.....	"	Bourgeois.....	27	2	8	
Lothair.....	Liverpool.....	Collins.....	99	2	5	

LIST of Vessels engaged in the fisheries in Pacachoo Division during the season of 1872.

Name of Vessels.	Name of Captain.	Tonnage.	Number of Men.	Number of Fishing Boats.	Remarks.
President.....	Turbide.....	30	12	3	Average catch of each vessel 200 cwts. Total catch 2,800 cwts.
Engedo.....	Cormier.....	25	9	3	
Temperance.....	E. Arsineau.....	36	9	3	
Marie.....	N. Arsineau.....	34	9	3	
Arctic.....	C. Bourque.....	50	12	4	
Jane Amelia.....	P. Turbide.....	46	11	4	
Jane Ellen.....	C. Chivarie.....	35	10	3	
Dolphin.....	J. Richard.....	52	12	4	
Flirt.....	L. Bourque.....	46	11	4	
Marie Louise.....	G. Cormier.....	21	9	3	
Flora.....	C. Boudreau.....	34	9	3	
Esperance.....	E. Bourgeois.....	51	12	4	
A. Painchaud.....	Isidore Bourgeois ..	36	11	4	
Rocket.....	J. Barry.....	25	6	2	
		521	142	47	

Messrs. Legouvé and Whiteley, fishery guardians for the St. Augustine and Bonne Esperance divisions respectively, have informed me that a greater number of schooners has visited these places this year than heretofore. The posts mostly frequented were Whale Head and Mecatina Bays, St. Augustine, and Bonne Esperance, where most of the schooners took their cargoes in a very short time. The American schooners visiting these waters are, the greater part of them, supplied with cod-seines, by means of which they soon obtain full cargoes, cod being very abundant around the numerous small islands.

The prices for cod ruled lower than last year, but the quality of the fish was superior. Traders brought up the price to \$3.50 per quintal. Greater difficulty was experienced on the North Shore than on the south coast in curing cod, owing to damp and foggy weather.

The principal places where cod-fishing is carried on are Moisie, Sheldrake, Magpie, Thunder and St. John Rivers, Long Point, Nataashquan, and Bonne Esperance. The statistics attached to this part of my report will shew the details of the catch in each of these localities.

SEAL FISHERY.

This fishery, which is chiefly prosecuted by the settlers in the eastern part of this division, gave very poor results. Only a few years since, this industry was very productive, and yielded large returns; but it has fallen off so much that the sealers are now reduced almost to poverty, making scarcely enough to pay their expenses. Of the thirty-one stations formerly fished, only ten are worked at the present. These animals were formerly so numerous, and this kind of fishing so enticing as well as remunerative, that the owners of the stations cannot reconcile themselves to the idea that they have either disappeared from our shores or that they will never return in such large numbers as in the years of plenty, although it does not require any great effort of the imagination to understand that such is the case.

A hundred years ago, numerous herds of walrus (*Trichecus Rosmarus*) used to frequent the Gulf shore and land on the coast. The large quantities of bones found on the shores of Grosse Isle, one of the group of Magdalen Islands, attest the wholesale destruction formerly made of these animals by the inhabitants of these islands and other fishermen. Harrassed and intimidated by such deadly warfare, they abandoned these inhospitable shores to seek shelter in more northern seas, where the murderous hand of man cannot so easily follow them. Other animals which used to repair to our waters have also disappeared; and it seems to me that the seal will have to follow the same course, in order to avoid the utter extinction of its species. About fifteen or twenty years since, seals used to ascend the Gulf near the shore, in early spring, as far as Pointe des Monts and Manicouagan, and even further, for purposes of reproduction. They were at this period of the year caught in large numbers at La Tabatière and Mecatina; and when descending on the floating ice in April, at Bras D'Or Bay, Anse des Dunes, and Blanc Sablon. A great change has, however, taken place since then. The young seals were killed on the ice in such large numbers that the whole of them could not be gathered. The old ones, being terrified by such massacre, now seek shelter in the waters of higher latitudes, whence they return only in March, when the floating ice enters the Strait of Belle Isle. Such, in my opinion, is the reason why this fishery, formerly so successful, has now become a comparative failure. The ten stations which were fished this fall between Mecatina and Blanc Sablon only realized some 690 seals; and at one of them, La Tabatière, where the average annual catch was 3,000, only 350 seals were taken. In four stations, where seal fishing was pursued last spring, and which gave an average yield in past years of from 1,000 to 2,000 seals, only 750 in all were caught; and this is the largest figure for the last ten years. Good catches may occasionally be had, but this will be rather the result of accident than an indication of general increase. So long as the yield was good, prosperity and plenty flowed into the lucky owners of fishing stations and the fine season was set apart for long and expensive journeys. Cheerfulness and contentment reigned. But the seals soon diminished in numbers, and want and distress

followed. Those of them who can now make a living merely, and improve ever so little their straitened circumstances by cod fishing, are considered happy.

SEAL-HUNTING ON THE ICE.

This adventurous but enticing pursuit is mainly followed by certain of the inhabitants of Esquimaux Point, Natashquan, and Kegashca. These hardy fishermen, mostly descendants of Acadians, practised seal-hunting at Magdalen Islands, where they formerly lived; but they do not allow this to interfere with the herring and cod fisheries, in which they reap their chief gains. To see these people now, one would conclude they had left behind them, on their emigration here from the Islands, all the impediments to their prosperity; for although the coast of Labrador does not present the same advantages as other parts of the Gulf, cultivation of land being out of the question, they have nevertheless succeeded in rearing two fine villages, which for cleanliness and thrift are in no respect inferior to the other villages in Lower Canada. By industry and perseverance, they have succeeded in laying up some savings for times of adversity. Eighteen houses were built during the past season at Esquimaux Point, and four new schooners added to the fishing fleet of this place. It is really pleasant to observe the spirit of emulation possessed by these people: they are always supplied beforehand with all they need to carry on their operations, nor do they let slip a single chance of success. Below is a list of schooners fitted out at the above place for sealing voyages, last spring.

SCHEDULE of Vessels from Esquimaux Point engaged Seal hunting during the season of 1872.

Description of Vessel.	Name.	Tonnage.	Port.	Master's Name.	Owner's Name.	No. of Men.	No. of Seals.	Remarks.
Schooner	Labrador.....	43	Esquimaux Point.	Placide Doyle.....	Placide Doyle.....	10	15	Fishing voyage.
"	Progress.....	52	"	N. Boudreau.....	N. Boudreau.....	11	130	
"	Loup Marin.....	37	"	B. Pettipas.....	B. Pettipas.....	10	730	
"	Victoria.....	46	"	G. Cormier.....	C. Cormier.....	10	70	
"	Ailsa.....	41	"	F. Cummings.....	F. Cummings.....	10	50	
"	Wide Awake.....	42	"	P. Vigneau.....	P. Vigneau.....	10	550	
"	J. C. Miller.....	41	"	A. Vigneau.....	A. Vigneau.....	10	550	
"	Amelia.....	50	"	P. Cormier.....	P. Cormier.....	10	750	
"	Thres Brothers.....	35	"	E. Boudreau.....	E. Boudreau.....	10	750	
"	La Victoire.....	43	"	J. Boudreau.....	J. Boudreau.....	10	6	
"	Queen of the East.....	12	"	N. Boudreau.....	N. Boudreau.....	6	3	
"	D. Cronan.....	39	"	P. LeMarquand.....	P. LeMarquand.....	9	60	
"	Eugénie Charlevoix.....	40	Quebec.....	A. Vallée.....	A. Vallée.....	10	550	
"	Marguerite.....	27	Esquimaux Point.	J. Cormier.....	J. Cormier.....	8	4	
"	Vanello.....	34	"	Ed. Doyle.....	Ed. Doyle.....	9	10	
"	Elizabeth.....	97	"	L. Cormier.....	L. Cormier.....	10	20	
"	Iberville.....	36	"	H. Boudreau.....	A. Boudreau.....	10	3	
"	Mariner.....	21	"	R. Landry.....	E. Landry.....	7	130	
"	Ocean Bride.....	21	"	S. Doyle.....	Abner & Doyle.....	8	160	
"	Acara.....	29	"	A. Vigneau.....	A. Vigneau.....	9	.....	

These vessels have made two cargoes of cod-fish and one of Labrador Herring.

Fishing and freighting voyages

These twenty-one schooners sailed from Esquimaux Point on the 8th April. In spite of the many dangers and difficulties encountered by them, they returned with 4,242 seals. Although below last year's yield (5,000), the result is, nevertheless, satisfactory. Seven schooners from Natashquan and Kogashca, less successful, obtained only 1,000 seals. The oil sold for fifty-five and sixty cents per gallon. These same schooners were subsequently engaged in fishing for cod and herring on the coasts of Newfoundland, to which they made two successful trips each. In addition to the above, some 1,000 seals were killed on the coast of Labrador, during last summer.

MACKEREL AND HERRING FISHERY.

Mackerel do not frequent the waters of the Labrador coast so regularly as they do the shores of Bay des Chaleurs, Magdalen Islands, and the Maritime Provinces. Last year they were abundant on the eastern part of the coast, at Mecatina and Tabatière Bay, for example, but none were caught there this season. At Moisie and Seven Islands they are found in greatest numbers; but the people of these localities do not carry on this fishery with much ardour, for want of a market where to dispose of them to advantage. Two hundred and thirty-one barrels were caught there this season.

Herring were very plentiful along this coast this summer; but, as in the case of mackerel, there is no encouragement to catch them, the market prices being so low as not to cover the expense of curing them. One hundred and sixty barrels were salted at Natashquan, and one hundred and fifty at Moisie, over and above the quantity used for local consumption.

HALIBUT FISHERY.

The localities to which halibut mostly resort are Natashquan, Perroquets' Islands, and English Bay. With the exception, however, of a few fish taken along with the cod, our people do not pursue this kind of fishing to any extent. Our American neighbours, though, catch them when they can fish inshore without being molested; but the seizure of the United States States' fishing schooner, *Enola C.*, taken in *flagrante delicto*, near Trinity River, so intimidated them that no others were seen during the whole fishing season.

TROUT FISHERY.

Trout fishing is pursued both with the net and the fly, not so much for the market as for home consumption in a fresh state. The statistics appended to this report show that only fifty-five barrels were sold on the North Shore.

POSTAL COMMUNICATION.

During the course of last season postal communication was more frequent and regular than formerly in this isolated part of the Dominion. In addition to Mr. Molson's steamer, *Margaretha Stevenson*, which, for the past few years, has plied between Quebec and Moisie, occasionally calling at Mingan and St. John River for the accommodation of anglers, the present member for Gaspé, Dr. Fortin, prevailed upon the Government to establish a regular mail-packet to ply between Gaspé and the North Coast, calling fortnightly at Sheldrake, Magpie, Esquimaux Point, Natashquan and Fox Bay (Anticosti). This has indeed been a great boon to those who were carrying on business at these places, and to the fishing population as well. Messrs. Fraser and Holliday's steamer *Beaver* was also on this route, and occasionally called at the fishing-ports between Natashquan and Moisie.

THE WILD FOWL OF THE GULF OF ST. LAWRENCE.

I need not here repeat what I have already said in previous reports respecting the destruction of the wild fowl frequenting the islands in the Gulf of St. Lawrence. The

principal species frequenting this coast are as follows :—The Eider Duck, the Black and Silvery Sutt, the Murr, the Gull, the Guillemot, the Razor Bill, Ank or Tinker, the Puffin and the Sea Swallow. Jacques Cartier, and the first navigators who visited Canada, were struck with the vast numbers of these sea birds. Although they are not now by any means so numerous, still, if the eggers from Nova Scotia are prohibited from stealing away the eggs of these wild fowls, there will be enough for the settlers. The Gulls, Tinkers, Eider Ducks, Sutt, Puffins and Guillemots are good eating during the spring and fall months ; in summer, however, they have an oily taste which is not suited to the palate, which arises from their feeding on fish. The flesh of the young ones, though, is eaten the summer through, that of the young Sutt especially being delicious, having the flavor of chicken.

Coacoachoo Bay was this season visited by two schooners from Nova Scotia, having come there for the express purpose of robbing the nests of the wild fowl. Their spoils must have been very considerable, as I found, on visiting the locality, a general outcry raised against this wanton and cruel practice, which, unless checked soon, will result in the extinction of these wild fowls, and deprive the settlers of that coast, who have now to fight hard for a living of the most simple kind, of the chief of their very scanty comforts. But, what could we do ? The laws relating to game are under the control of the Government of the Province of Quebec, and neither the officer in command of *La Canadienne*, nor the local Fishery Guardians can do anything without being vested with the requisite authority.

RETURN OF FISHING STATIONS, kinds of Vessels, number of men

COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cud nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Pointe des Monts	9	11	9	18										1	2					310	
Trinity Bay	2	4	2	5												225	90			30	
Trinity River	1	3	1	3												300	30				
Trinity River (outside)	6	4	6	12											1	660	60			248	
Cariboo Islets	4	7	4	13												300				122	
Egg Island	3	3	3	6												75				150	
Pentecost River	11	6	11	20												75	120			975	
River St. Marguerite	5	7		11					1					2	3	505				570	50
Seven Islands	2	5												4	6	240				200	
Pointe Jambon	1	2		2					1					1		55				70	
Moisie River (inside)	2	12	14	9	69	12				1	1					2490				600	700
Moisie River (outside)	1	22	11	4	50	20	1		4	4				2	1			8		1470	360
Pigon	6	2		4						1				1	1	28				650	150
Shallop River	5	1		10																500	
Gibraltar Cove	11	5		22	10				1						1					1365	50
Sheldrake River	18	6		36	33	3			2	1			2			100				1900	
" Beach	16	6		32	14	3			3	2						117				2230	97
Primrose Cove	4	3		8																320	65
Thunder River	33	10		66	40	1	1	1	1	1				2	2	90				3515	150
Ridge Point	25	11		50	27				5	2					4					3040	490
Ramblers Cove	26	17		112	117				1	1										7750	100
Magpie	22	15		44	13				2	7					17	45				1816	333
Magpie River	1	2		1											2	150					10
Esquimaux Pt.	20	54	72	187				9	3		300								4242	5093	
Jupitagan River	1			2						1					2	100				40	
Mingan River		3									200										
" Harbor	1			1																	12
Long Point	56	25		105	57		1	5	8					3		155				4406	990
St. John's River	70	31		140	66	1	2		6	13					4	1800				5027	1042
Nabisi River		1		2												250	25				
Aguanus	1	1	2	2				1								280			24	70	
Nataashquan																					
" Harbor	7	5		14	13				2	1					13					1074	
" Bank	4	38	24	30	47	43		4							27				725	3007	307
" River	1				24											3000					
Kikaska	3	26	15	25	30		1								13	100			125	1178	158
Washecootai		3		4												250					
Musquarro		1		1												50	25				
La Romaine		1		2												100					
Ateopetal	1	1		1							40					80	20		75		
Cornelle	1	1		1							30					130	30		13		
Piashter Bay		1		2							30					30	20				

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,
COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.											CODFISH.				
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Little Wataheeshoo.....	1	1			4							60				70	40		36		
Chicoutica.....	3	2			6				1						1	60					635
Anse du Portage.....	1	1			4									1	1	220					36
Pêche à Duquet.....	1	1			1											33					15
Giroux Point.....		1			2											240					6
Dog Island.....		2			2											280	50				
Sandy Island.....		1			2											93	30				
Lac Salé.....		2			2											275	45				
Fraser's Rapid.....		1			1											40					
St. Augustine's Bay.....		1			1											150					
St. Augustine's River.....		2			2											56					
Grosse Isle, St. Augustine.....		1			1											180					
Big Rigolet, Pacachoo.....	2	2			2							595			1	210			26	140	
Little Rigolet, Pacachoo.....		1			1											211	20				
Whale Head, Pacachoo.....		1			1											30	10				
Red Point, Pacachoo.....		1			1											60	10				
Kikapoe.....	1	1			2							250		1		200	30		4	20	
Fonderie de Pecteau.....		1			1											42				30	
Salt Lake, Tabatière.....	1	1			3		1					330		2	1	65			24	100	
Spar Point, Tabatière.....	1	1			2			1	1			727				30			330		
Red Bay, Tabatière.....	4	2			7		2	1				100		1	2	100			24	150	
Meccatina Idl.....	2	2			7		1	1				345		1	2	140			144	115	
Sheep Bay.....	2	2			4			1				260			1	150			67	67	
Great Meccatina River.....		1			1											150					
Whale Head, Meccatina.....	1	2			4											135				90	
Little Meccatina River.....	1	1			2							70				70				125	
Nitagamiou River.....	1	1			1																
Pointe Mourier.....	1	1			1							100				20			50	23	
Etamamliou Riv.....	1	2			2											150			20	30	
Cape Whittle.....	1	2			2							30				50			50	18	
Concocho.....		1			1							30				50			48	21	
Napittipi River.....		2			1	2						20				40				20	

kinds of Nets used, kinds of Fish Oils, &c., &c.—*Continued.*

SAGUENAY.—*Continued.*

KINDS OF FISH.										OILS.					FISH USED AS MANURE.					REMARKS.
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Coal oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.	Smolt, barrels.		Cod roes, barrels.
								8	1			66								
								8												
								4												
								1												
								12												
								36	7											
								16	6											
								28	8											
								2	2											
								6								92				
								8												
								6												
								12				188				77				
								6	1											
								1	1											
								3	1											
								7	1			20				15				
								5												
								5				161				35				
								1												
	1	50						2				185				80				
								7				860				75				
								3				536				15				
								17												
			13					11								32				
			10					15								85				
								3				175				12				
								32				42				26				
								2				23				10				
								2				20				12				
								5				20				10				

8-8**

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men.

COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODPISE.					
	No. of vessels.	No. of fishing boats.	No. flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Bull Cove.			1		1											30					10
Bay of Rocks.	1	2		2	4	4						20				75					150
Lydia's Cove.		2		1	1	1						20				75					10
Dog Islands.	1	2		1	1	1						300				75			50		50
Pêche à Lizotte.		2		2	1	1						20				90					
Old Fort Island.	4	5		8	5	1				1		50				30					400
Burnt Island.	1	2		2	2	2						100				20			25		80
St. Paul's River.	1	4		14	11	1						20				300					10
Bonne Esprance.	1	8	12	4	2					1		40									1350
Pigou Island.	2	3		4	4	1				1		20				60			12		300
Stick Point.	2	4		2	1							40				120					50
Salmon Bay.	15	10		28	15	1	1	1	1	1		20				80					2650
Little Fishery.	2	3		3	3							100				40			25		100
Five Leagues.	2	2		4	2	1				1		100				50			25		200
Middle Bay.	1	2		2	1											20					50
Belles Amours.	1	2	3	4	3					1		200							50		200
Bras d'Or.		5	7	8	7							500				20					320
Anse des Dunes.		2		4	4							200				12			250		100
Long Point.		3	5		8	4						600							320		100
Total.	33	578	474	305	1125	562	13	5	24	48	43	5867	2	22	108	16517	655		6842	55327	5364

kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—Continued.

SAGUENAY.—*Concluded.*

[illegible]

RECAPITULATION.

Value of the different Fisheries of the Labrador Division.

Summer Cod Fishery—	55,327 quintals @ \$ 4.....	\$221,308
Autumn do	5,264 do 5.....	26,320
Mackerel fishery	279 barrels 10.....	2,790
Herring do	5,551 do 3.....	16,653
Halibut do	83 do 5.....	415
Salmon do	2,465 do 16.....	39,440
Trout do	55 do 10.....	550
Ling do	1 do 5.....	5
Number of Seals	6,842 6.....	41,052
Seal Oil	37,946 gallons 80 cts.....	30,357
Whale Oil	3,360 do 80 „	2,688
Cod Oil	28,771 do 50 „	14,386
Fish (for manure)	44 barrels 25 „	11
Total value of products of Fisheries, 1872.....		395,975
do do 1871.....		307,493
Increase.....		88,482

ANTICOSTI DIVISION.

Owing to the wrecks which took place on the shores of the Island of Anticosti this spring, it was found necessary to despatch *La Canadienne* to this locality soon after the opening of navigation, to relieve those who had been cast away and protect their cargoes. We arrived early in June at Fox Bay, on the north-east coast of the island. During the eleven days that we remained anchored in the Bay—the best harbor in the island, although we had to have three anchors all this time to hold the vessel even in moderate weather—I had some considerable opportunity to study more closely the quality of the soil and the value of the fisheries of this Island.

Three large vessels, namely, the *Tadmor*, *Franklin* and *Royal Charter* had been carried ashore by the ice and currents. One of them, the *Royal Charter*, Captain Murphy, from Yarmouth, Nova Scotia, had on board a valuable cargo of wines and groceries, which our presence contributed in no small degree to secure against the depredation of laborers, fishermen and sailors. To preserve order, and to avoid delaying salvage, we were compelled to make prisoners of certain persons under the influence of liquor, and in several cases we restored to the owners articles of high value, such as sails, cordage, baskets of champagne, &c., which had been stolen and secreted in the bushes.

Fox Bay is not a very good harbor for small craft during the spring, but is sufficiently safe for the summer months. Fishing schooners resort thither from Cape Breton, especially from Cheticamp. Large shoals of herring visit its shores at about the same time as they do the waters of Pleasant Bay, Magdalen Islands. A large schooner from Prince Edward Island caught here in the spring with the seine no less than 1,100 barrels of herring in one day, but after loading, the vessel went ashore in a gale, and the cargo had to be thrown overboard to save the vessel.

There was only one resident at Fox Bay last spring, but the small colony has since received an accession of one family, that of Mr. Marshall, the former owner of the U. S. schooner *S. G. Marshall*.

The whole coast of Anticosti abounds with fish of all sorts, but harbors are scarce even for fishing-boats. I am unable to say whether this is the reason why cod-fishing is not carried on to so great an extent as at other places. The fish are, however, all large, no finer being seen at the Miscou or Orphan Banks. A yearly increase in the number of fishermen who frequent these waters is observable; the codfishmen of Gaspé and Douglstown are now beginning to fish here more largely than heretofore. The best fisheries are said to be those at Lake Salé and Chaloupe Creek, on the south side of the Island, and Fox and English Bays on the north side. On the north side at Capelin Bay, Mr. Couture, of Montmagny, has a large establishment which gives employment to eighty men. When cod-fishing failed everywhere else in the gulf, some years ago, it did not fail at Anticosti, the waters around this island being a favorable resort for cod. There is a slight decrease in the yield this year when compared with that of 1871 (some 2,000 quintals), but this is owing to the fact that vessels arrived on the banks one month later than usual. During our stay at Fox Bay the following schooners arrived there to fish :—

Name of Schooner.	Master.	Tonnage.	Port.	Men.	Remarks.
* Three Brothers..	C. Haché.....	30	Cheticamp....	8	* This vessel was crushed by the ice six miles from Bird Rocks, on 5th May last. The Captain and his crew walked three days and three nights, when they reached Cape North (Cape Breton) and thus saved their lives.
Marie	E. Boudreau..	27	do	7	
Arichat.....	V. Boudreau..	21	do	7	
Ida.....	— Jane	25	Arichat	7	
Messenger.....	P. Giasson....	30	Cheticamp....	7	
Emily Jane.....	— Murphy....	36	Ship Harbor..	9	
Thora	— Cormier....	40	Cheticamp....	8	

Although mackerel are very abundant around the island they are not much sought after, and only twenty barrels were caught at Salmon River. An immense quantity of herring might also have been taken, but only some 1,634 barrels were seined in all. Halibut were so plentiful on the cod banks that 199 barrels were taken in fishing for the latter. American schooners used to repair in large numbers to the shores of Anticosti for the purpose of catching halibut, but they have been effectually deterred from fishing within the three miles' limit by the vigilance of our cruisers. While at Fox Bay, in June, I boarded the U. S. schooner *O. Smith*, C. Almouy, Master, of seventy tons burthen, and carrying fifteen men, from the Port of Gloucester. She was anchored there waiting for a chance to fish, but after a short conversation with the master he considered it more prudent to repair to Magdalen Island, and he forthwith sailed without having dropped a line.

There were only 49 barrels of salmon caught at Anticosti this season, while last year there were 78 barrels taken, and in 1870 no less than 104. This gradual decrease may occasion some surprise when the steady increase noticed almost everywhere else is considered. I am inclined to believe that the means of protection are inadequate to the requirements of the island, and that most of the rivers and streams are mercilessly poached every day of the week, Sunday included. I do not say that the fishery overseer fails in his duty; but I am convinced that a single fishery overseer, however active and vigilant, cannot guard properly a coast of ninety miles in extent, the difficulties of communication being very great, and the salmon fishing season only continuing about three weeks, whereas it occupies four weeks to make the circuit of the island. The rivers should be visited frequently in order to ensure efficient protection. Up to the present time, however, this it has been impossible to do on account of the difficulties in the way. In order to obtain an effective guardianship of these rivers and prevent their utter ruin, I would suggest the following plan. Let two of the most respectable codfishermen be

selected and located as follows :—One at Dauphine River, charged with guarding the Jupiter, Becschie and Chaloupe Rivers ; the second at Salmon River and neighborhood. This arrangement would, I think, be sufficient for the present wants of the island ; each guardian having a district of about sixty miles in extent, and being stationed in the centre, could visit the streams of which he would have an oversight every now and then. This system would cost about \$80, and would, I feel quite sure, give satisfaction. Should this plan meet the views of the Department, I could choose the men on my first visit to the island. Until a better mode of protecting the remote places be found, I feel satisfied that the adoption of my suggestion would be attended with good results, and entail less cost than at present.

The first salmon station fished on the south-west side of Anticosti is at Ellis or Gamache Bay, fifteen miles from West Point.

The second is at Becschie River, seven miles east of Ellis Bay.

The third at Otter River, seven miles east of Becschie River.

The fourth at Jupiter River, nine miles west of South-West Point. These four stations are fished by Captain Setter, who resides on the island.

The fifth is at Dauphiné River, four miles east of South-West Point, and is occupied by Fruing and Co.

The sixth is at Pavillon River, fifteen miles east of Dauphiné River, occupied by B Bradley.

The seventh is at Chaloupe Creek, eight miles west of South Point, occupied by Thomas Bradley.

The eighth is at South Point, occupied by D. Tetu, lighthouse keeper.

The ninth is at East Point, occupied by Thomas Gagné, lighthouse keeper,

The tenth is at Salmon River, eighteen miles north-west of East Point, occupied by John Allison.

The eleventh is at Muskrat Brook, west of Salmon River, occupied by Howell and Walsh.

The twelfth is at McDonald's Cove, west of Muskrat Brook, occupied by John Davis.

Hunting was good. One Hebert, of Fox Bay, killed eight black and silver foxes and another man killed five large bears in eight days in May last.

Geologists, and others who have visited the interior of the island, agree in stating that its soil is rich, and that more than one million acres can be cultivated with advantage. Clearings have been already made at Gamache Bay and at the South-West and West Points, and here cereals and grains grow equally as well as in the westernmost parts of the Province of Quebec. Reports of the numerous wrecks on the inhospitable shores of this island have, however, spread such a terror over every one that up to last year nobody had ever thought of settling there. A newly formed and powerful company now proposes to open up the material resources of the island and induce a thrifty class of settlers to occupy its fine lands. Its prospectus is already published, and its conditions of settlement are of the most advantageous kind. Everyone must feel happy in seeing such a spirit of enterprise as animates this company, and it is to be hoped that success will crown their endeavors. The Company's offices are at No. 96 St. François Xavier, street, Montreal.

RETURN OF FISHING STATIONS, kinds of Vessels number of Men, kinds

ISLAND OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.				
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Baie de Ga- mache.....			1		1											100	25			
Becsis River.....			1		1											30				
S. W. Point...	2	13	12	2	29	15			1					1	14				1,420	290
Shallop Creek.....			1		1											70	10			
Dauphine River.....			1		1											75				
Belle River.....			2		2											116				
Belle Bay.....		8	5		15	7		1						2	14	50			500	100
South Point.....		15	11		30	12		2							27				1,450	255
East Point.....			1		1											50				
Baiedes Anglais.....	3	37	27	5	72	35		7							46				3,350	820
Cow Head.....		20	10		40	18		1	2						33	75			1,900	229
Mansdrolle Cove.....																				
Salmon River.....		1	1		2			1				90			4	250			75	25
McDonald's Cove.....		11	6		23	6		2							20	50			1,100	50
Capelin Bay.....		10	3		20	10		2							15	60			800	60
Total.....	5	115	82	7	238	103	1	18				90		3	173	926	35		10,595	1,819

RECAPIT-

Value of the different fisheries

Summer Cod fishery,	10,595 quintals @
Autumn do	1,819 do
Mackerel do	20 barrels
Herring do	1,634 do
Halibut do	199 do
Salmon do	49 do
Trout do	13 do
Seal oil,	130 gallons
Cod oil,	4,666 do

Total value of the products of

"

Increase

RETURN OF FISHING STATIONS, KINDS OF VESSELS, NUMBER OF MEN, ETC.

RECAPITUL

NAME OF PLACE.	KIND OF VESSELS.		NUMBER OF MEN.		KINDS OF NETS USED.														COASTS.			
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailers.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of caplin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of eel nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. fath. of trout nets.	No. of trawl fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.	
County of Gaspe	20	1239	482	163	2344	1159	3	3	4	95	5			76	2043	1677	68	3		8585	2692	
County of Bonaventure ..	299	297			529	292		44	50					114	583	11405	30	5		7303	534	
Magdalen Islands.....	29	257	52		639	617		1	2			322		397	153					1713	1748	293
County of Saguenay....	33	578	474	305	1125	562	13	5	24	48	43	58	67	2	22	198	16517	635		6842	3537	598
Anticosti.....	5	115	82	7	238	103		1	18					3	175	926	35			10693	1819	
Total....	68	2396	1297	475	4965	2733	16	3	74	220	48	6279	2	612	3060	30525	788	8	8553	17660	4080	

APPENDIX C.

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c., on the South Shore of the River St. Lawrence, from Point Lévis to Cape Chatte.

NAME OF THE PLACE.	KINDS OF NETS USED.				KINDS OF FISH.								REMARKS.	
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon.	Number of Shad.	Herrings - barrels.	Number of Eels.	Sturgeon - barrels.	Sardines - barrels.	Bar and White Fish - dogs.	Small Fish - barrels.		Fish for Manure.
Pointe Lévis.....		1	25		123	3360		325				71		From River to Matane, fishing was almost nothing, most of the people being engaged during the season on the Intercolonial Railway. Cod were abundant during the whole summer; a small quantity were caught for home consumption, about 300 quintals, which at \$2 per quintal, would be \$400. Capelin also were plentiful; some 3,000 barrels have been used for manuring the land. At 25 cent, they would amount to \$750.
Beaumont.....		1			50	1900		30				30		
St. Michel.....		1			37	500		10				30		
St. Valier.....		1			50	500		100				450		
Berthier.....		1		8	2	300		100	12			10		
St. Thomas.....			6	6				1075	50			12		
Cap St. Ignace.....			1					100	31			12		
Anse à Gules.....								175						
Islet.....				18				2540						
St. Jean Port Joli.....				33				6581						
St. Roch.....			2	18				5290	7			50		
Cap Martin.....														
St. Anne.....			3	17				5500	21			135	10	
Rivière Ouelle.....				33				35710		1				
Petite Anse St. Denis.....		1		1	35	300	50	5055		65				
St. Denis.....			1	1	10	150	75	350		10				
Cap au Diable.....			1			25	5			5				
Kamouraska (including adjacent Islands).....			10	4	48	1650	485	2100		59				
St. André.....			3				105			10				
Notre Dame du Portage.....				8				1835						
Rivière du Loup.....			1		35	500	700			20				
Cacouna.....			11		139	835	775			134				
Isle Verte.....			11	1	225	1775	1075	500		284			235	
Isle Verte (mainland).....			13		5		1057			785				
Pointe à la Pape.....				1			5			2				
Trois Pistoles.....				4	40		40			3			8	
St. Simon.....	6	1			308		10						200	
Port au Pic.....	2				150									
Pointe à la Cive.....	2				230								8	
Anse à Mercier.....														
Islet au Flacon.....	1		1		100		50		25			75		
Baie des Ha-ha.....			1		25	150	75		19	50		7		
Cap à l'Original.....			3		89	120	82			38				
Bic.....			2		39		20			15			20	
Anse à la Truie.....														
Anse au Bouleau.....			2		35	250	21			11				
Cap Enragé.....	1				323									
Isle Brûlée.....			2		33		17			15			9	
Islet au Massacre.....	1				250									
Rivière Hâtée.....			2				70			2			4	

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c., on the South Shore of the River St. Lawrence, from Point Levis to Cape Chatte.—
Continued.

NAME OF THE PLACE.	KINDS OF NETS USED.				KINDS OF FISH.								REMARKS.
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon.	Number of Shad.	Herrings—barrels.	Number of Eels.	Sturgeon—barrels.	Sardines—barrels.	Bar. and White Fish—doz.	Small Fish—barrels.		Fish for Manure.
Anse au Sable			7		50	320	1529			29			2200
Islet Canuel			1		60	500	225			20			75
Isle St. Barnabé			2		100	250	400	50		35			200
Rivière et quai de Ri- mouski. 1			2		265	25	95	100	1	19			5
Ste. Luce.			9		42		50			9			
Anse au Lard							3						
Ruisseau à la Loutre.. 1			1		275					1			
Ste. Flavie			6		30		18						
Pointe aux Senelles.			2		75		75			5			
Anse aux Morts.			1				4			6			
Metis			3		50		58			25			
From Rivière Blanche to Matane..... 1			18		20								3000
..... 16	12	144	151	3574	18410	7174	73402	139	1658	1087	22	6046	

APPENDIX D.

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c., on the North Shore of the River St. Lawrence, from Quebec to Bersimis.

NAME OF PLACE.		KINDS OF NETS USED.				KINDS OF FISH.								REMARKS.
		Salmon Nets	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon.	Number of Shad.	Herrings barrels.	Number of Eels.	Sturgeon - barrels.	Sardines - barrels.	Bar and White Fish - doz.	Small Fish - barrels.		Fish for Manure.
Island of Orleans.	St. Laurent.....	4				81	1550					82		
	St. François, northside of the Island.....			11	2				1680	487		1364	154	
	Argenteuay.....				5				1065					
	St. François, south side of the Island.....													
	Ste. Famille.....				10				1332					
	Chateau Richer.....	1	6	1	4	1			1150	1000		430	200	
	Ste. Anne.....			3	11				221	374		167	51	
	St. Joachim.....				34				1382	40		31	7	
	Baie St. Paul.....				2	8			15102					
	Cap au Corbeau.....					14			1619		3		5	
	Ile aux Coudres.....	1	17	91					1277				13	
	La Misère.....				16				6714		42		129	
	Les Eboulements.....			15	25				814				4	
	Cap aux Oies.....			4	8	2			724	39		78	390	
	St. Irénée.....	4	17	13			28		354		3		7	189
	Terrebonne.....	6	2				22		526		28		308	733
	Pointe au Pic.....	13	2			2	46				2		2	4
	Malbaie and Cap à l'Aigle.....	1	5	11	1	17	40		3		1		7	5
	Port au Saumon.....	1				15	4		44				37	298
	St. Fidèle.....						4						68	
Port au Persil.....														
Rivière Noire.....	1				36									
Port aux Quilles.....	1				125									
Baie des Rochers.....	1													
Rivière au Canard.....			1			2				1		2	6	
Pointe au Bouleau.....			1		2	4				3		8	6	
Anse à Catherine.....			2		11	4				1		3	5	
Pointe Rouge.....	1				648									
Moulin Baude.....	2				324									
Pointe Carole.....	1				300									
Anse Puante.....	1				200									
Bergeronnes.....			1		1	10				1		1	4	
Bon Dêr.....			1		5	9				1			27	
Anse à la Cave.....			1		10	2						1	2	
Anse aux Basques and Escoumains.....	2	1	1		142	4				2			1	

Nineteen Porpoises, and upwards of 100 Seals, were killed at the mouth of the River Saguenay.

Nineteen Porpoises, and upwards of 100 Seals, were killed at the mouth of the River Saguenay.

RETURN of Fithing Stations, Yield, Value, Kind of Fish, &c., on the North Shore of the River St. Lawrence, from Quebec to Beresina.—*Continued.*

NAME OF PLACE.	KINDS OF NETS USED			KINDS OF FISH.									REMARKS.	
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon.	Number of Shad.	Herrings—barrels.	Number of Eels.	Sturgeon—barrels.	Sardines—barrels.	Bar and White fish.	Small Fish—barrels.		Fish for manure.
Ilets Penchés.	2	2			407		2							
Cran Rouge.					2					1		1		9
Baie des Mille Vaches.					3		13			3		2		6
Port Neuf.		1	1		200		5			2		3		
Patte de Lievre.	1				70									
Baie de Laval.		1			300									
Bersimis.					700									
	14	40	114	243	3604	1550	195	34007	1901	133	2074	1091	1685	Killed by the Indians.

Certified,

W. F. WHITCHER.

APPENDIX E.

GENERAL Recapitulation of the Yield of the Fisheries on the North and South Shores of the River and Gulf of St. Lawrence, from Quebec to Blanc Sablon, and from Point Levis to Bay des Chaleurs, during the year 1872

Quantity and Value of Fish.	1872.	Remarks.
Summer Codfishing, 176,860 cwt. at \$ 4 00	\$707,440 00	
Autumn Codfishing, 40,881 cwt. 5 00	204,495 00	
Ling, 27 barrels 5 00	135 00	
Mackerel, 1,759 barrels 10 00	17,590 00	
Herring, 29,047 barrels 3 00	87,141 00	
Herring (smoked), 260 boxes..... 0 25	65 00	
Sardines, 1,791 barrels..... 5 00	8,955 00	
Halibut, 411 barrels..... 5 00	2,055 00	
Salmon, 4,050 barrels..... 16 00	64,80 00	
Trout, 103 barrels..... 10 00	1,030 00	
Sturgeon, 2,040 barrels..... 5 00	10,200 00	
Eel, 108,459 fish at \$10 per hundred.....	10,845 90	
Cod Tongues and Sounds, 176 barrels..... 7 00	1,232 00	
Seal Oil, 46,116 gallons..... 0 80	36,892 80	
Whale Oil, 16,357 gallons..... 0 80	13,549 60	
Porpoise Oil, 1,075 gallons..... 0 50	537 50	
Cod Oil, 136,529 gallons 0 50	68,264 50	
Haddock, 343 barrels..... 5 00	1,715 00	
Bar and White Fish, 3,161 dozen..... 2 00	6,322 00	
Mixed Fish, 1,113 barrels..... 4 00	4,452 00	
Shad, 19,960 fish, at 10c a piece.....	1,996 00	
Fish used as manure, 17,551 barrels..... 25	4,387 75	
Number of Porpoises, 25..... 40 00	1,000 00	
Number of Seals, 8,635..... 6 00	51,930 00	
Number of cans (1 lb.) of Lobsters, 88,320..... 0 15	13,248 00	
	1,320,189 05	

(Certified.)

W. F. WHITCHER.

P. MITCHELL,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1872.

27 Barrow	5	Halifax	210	18	209	800
28 Hare	59	Pictou, N. S.	62	2	60	160
29 Bouchard	62	Quebec	500	9	491	2,300
30 Dolphin	29	Halifax	709	...	...	2,100
31 Mary	17	Yarmouth, N. S.	250	...	...	750
32 A. Fairclough	36	Buctouche, N. B.	30	52	320	700
33 Harv.	50	Pictou, N. S.	34	1	...	100
34 Bouchard	38	do	300	...	...	900
35 Ruby	34	do	700	59	200	2,330
36 Flora	21	Richibucto	40	80	30	190
37 Marie Louise	25	Halifax	550	8	...	1,670
38 Engedd.	27	do	550	...	66	1,749
39 Cormier	35	do	850	50	70	2,735
40 Mary Ann	50	Pictou, N. S.	25	5	...	90
41 Hare	39	Halifax	750	...	495	2,000
42 Jenny Lind	43	do	900	90	...	3,180
43 Delaney	48	do	1,024	33	...	3,170
44 Jane Amelia	41	do	1,050	81	...	3,250
45 Annie	40	do	900	25	...	3,000
46 Archangel	52	do	1,160	41	169	3,000
47 Arctic	30	do	760	1	...	2,300
48 President	39	do	830	2	...	2,400
49 Greenock	51	Gaspé	1,000	...	...	3,000
50 Hermine	34	Halifax	700	...	...	2,100
51 Mary	61	Quebec	200	110	1,900	2,620
52 Esperance	20	Halifax	350	64	300	1,340
53 Victoria	50	Pictou	19	...	...	60
54 Hare	47	Montreal	73	23	271	2,000
55 Mosling	290	...	19,010	2,711	5,921	80,650
Total 54 Vessels	8,139	...	2,072	1,715	6,845	2,000

RECAPITULATION.

To Province of Quebec	4,085	633	371	4,025	3,312	2,000	21,020
" Nova Scotia	14,975	670	2,266	1,376	3,503	...	58,429
" New Brunswick	30	507	74	329	...	...	1,210
Total	19,010	2,072	1,715	5,921	6,845	2,000	80,650

P. MITCHELL,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1872.
(Certified.) W. F. WHITCHER

STATEMENT of the Number and Tonnage of Vessels, with the Number of Men engaged in exporting the products of the Sea Fisheries at the Magdalen Islands, to places without the limits of the Dominion of Canada, during the season of 1872.

No. of Vessels.	Name of Vessel.	Master's Name.	Tons.	Men.	To where Exported.	Description and Quantity of Cargo.						Value.
						Dry Codfish.	Pickled Herrings.	Mackerel.	Coal Oil.	Seal Oil.	Seal Skins.	Other.
1	E. Brown	C. Mayo	23	4	Prince Edward Island	.....	Bbls.	.....	.....	.....	.....	\$
2	Hero	McKay	29	3	do	.....	300	.....	.....	.....	.....	300
3	Hero	McKay	34	4	do	.....	500	.....	.....	.....	.....	500
4	Engedi	D. Devos	25	4	do	.....	300	.....	.....	.....	.....	300
5	Columbia	Cormier	32	4	do	.....	320	.....	.....	.....	.....	320
6	Whisper	McDonald	18	3	do	.....	400	.....	.....	.....	.....	400
7	Cape Ann	Campbell	42	7	United States	.....	250	.....	.....	.....	.....	250
8	Pathfinder	East	67	9	do	.....	450	.....	.....	.....	.....	450
9	Westwing	Stapleton	52	7	do	.....	800	.....	.....	.....	.....	800
10	H. S. Boynton	Gooldge	69	8	do	.....	600	.....	.....	.....	.....	600
11	Eastern Queen	Davis	68	10	do	.....	1,000	.....	.....	.....	.....	1,000
12	E. H. King	Dunbar	106	5	do	.....	700	.....	.....	.....	.....	700
13	L. H. Smith	Bragdon	51	7	do	.....	1,600	.....	.....	.....	.....	1,600
14	Lizzie Lee	Leitch	92	12	do	.....	600	.....	.....	.....	.....	600
15	Sam'l. Knight	Stubbs	58	7	do	.....	1,200	.....	.....	.....	.....	1,200
16	Pointer	Tracey	74	6	do	.....	800	.....	.....	.....	.....	800
17	Josephine	Holmes	66	8	do	.....	1,200	.....	.....	.....	.....	1,200
18	Nellie, H	McDonald	78	10	do	.....	800	.....	.....	.....	.....	800
19	Arenona	Mallloch	13	3	do	.....	1,100	.....	.....	.....	.....	1,100
20	Flirt	McEwen	47	5	do	.....	100	.....	.....	.....	.....	200
	Total, 20 Vessels.		1,044	126	.....	.....	13,100	.....	.....	.....	.....	13,200

STATEMENT of the Number and Tonnage of Vessels, with the Number of Men engaged in exporting the products of the Sea Fisheries at the Magdalen Islands, to places without the limits of the Dominion of Canada, during the season of 1872.

No. of Vessels.	Name of Vessel.	Master's Name.	Tons.	Men.	To where Exported.	Description and Quantity of Cargo.						Value.
						Dry Codfish.	Pickled Herrings.	Mackerel.	Cod Oil.	Seal Oil.	Seal Skins.	Other.
1	E. Brown	C. Mayo	23	4	Prince Edward Island		Bbls.					\$
2	Heco	McKay	29	3	do		300					340
3	Flora	D. Devos	34	4	do		500					500
4	Encodi	Cornier	25	4	do		300					300
5	Columbia	McDonald	32	4	do		220					320
6	Whisper	Campbell	18	3	do		400					400
7	Cape Ann	Foss	42	7	United States		250					250
8	Fathinder	Stapleton	67	9	do		450					450
9	Fleetwing	Goodidge	52	7	do		800					800
10	H. S. Boynton	Davis	69	8	do		600					600
11	Eastern Queen	Dunbar	68	10	do		1,000					1,000
12	E. H. King	Bragdon	106	5	do		700					700
13	L. H. Smith	Leitch	51	7	do		1,400					1,400
14	Lizzie Lee	Stubbs	92	12	do		600					600
15	Samuel Knight	Tracy	58	7	do		1,200					1,200
16	Pointer	Holmes	74	6	do		800					800
17	Josephine	McDonald	66	8	do		1,200					1,200
18	Nellie H	Malloch	78	10	do		800					800
19	Anemone	McEwen	13	3	Prince Edward Island		1,100					1,100
20	Flirt	Arseneau	47	5	do		80					80
	Total, 20 Vessels		1,044	126			13,100					200
												13,200

RECAPITULATION.

To United States Prince Edward Island	No.																	
	12	8	823	96	221	30	10,850	2,250	13,100	10,850	2,250	13,100	10,850	2,250	13,100	10,850	2,250	13,100
Total.....	20		1,044	126														

P. MITCHELL,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1872.
(Certified) W. F. WHITCHER.

RECAPITULATION of all Fish and Oil exported from the Magdalen Islands during the Season of 1872.

To	Foreign.	Dry Codfish.	Pickled Codfish.	Herrings.	Mackerel.	Cod Oil.	Seal Oil.	Whale Oil.	Seal Skins.	Value in Dollars.
To United States Prince Edward Island		Cwts.	Cwts.	Bbls.	Bbls.	Galls.	Galls.	Galls.	No.	\$
				10,850						10,850
				2,250						2,350
Total				13,100						13,200
To Provinces of Quebec Do Nova Scotia Do New Brunswick										
		4,035	2,042	633	371	4,023	3,342	2,090		21,020
		14,975		570	2,206	1,576	3,503		874	58,320
			50	507	74	329				1,210
Total		19,010	2,072	1,715	2,711	5,921	6,845	2,090	874	80,550
Grand Total		19,010	2,072	14,815	2,711	5,921	6,845	2,090	874	93,850

P. MITCHELL,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1872.
(Certified.) W. F. WITCHER.

RETURN of the Number and Tonnage of Vessels with the Boats and Men engaged in the Seal Fishery at the Magdalen Islands, during the season of 1872.

Name of Vessels.	Master.	Tons.	Men.	Boats.	Number of Seals taken.
Delaney	Vigneau	43	10	4	12
Jenny Lind	Cheverie	39	10	4	250
Archangel	Jonpbe	40	10	4	50
President	Turbide	30	10	4	60
Dolphin	Richard	52	10	4	50
Jane Amelia	Turbide	48	10	4	310
Annie	Terrieau	41	10	4	60
Greenock	do	39	10	4	22
Mary Ann	Arseneau	36	10	4	30
Temperance	do	36	10	4	150
Mary	do	34	10	4	150
Arctic	do	52	10	4	110
Esperance	Chasson	51	10	4	317
Total, 13 Vessels .....	.....	541	130	52	1,611

RETURN of the Number and Tonnage of Vessels with the Men, Boats and Nets, engaged in the Spring Mackerel Fishery at the Magdalen Islands, during the season of 1872.

Name of Vessel.	Master.	From Where.	Tons.	Men.	Boats.	Nets.	No. of Barrels of Fish.
Lillian	Proctor	Port Richmond	44	6	3	80	300
Janett	Hubley	Halifax	30	9	4	80	180
Harvest Home	Jackson	do	27	10	4	80	200
Franklin	Meyers	Spry Bay	32	10	5	100	250
William and Mary	Embree	Port Hawkesbury	35	9	4	80	240
Lavina and Elizabeth	Hawes	Spry Bay	23	9	4	80	200
P. Martin	Murphy	Ship Harbor	19	5	2	28	100
Total, 7 Vessels .....	.....	.....	210	58	26	528	1,470

P. MITCHELL,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1871.

((Certified,)) W. F. WHITCHER.

STATEMENT of the Number and Tonnage of Vessels, with the number of Men, Boats, Nets and Seines engaged in the Herring Fishery in the Magdalen Islands, during the season of 1872.

Name of Vessel.	Flags.	From Where.	Tons.	Men.	Boats.	Nets.	Seins.
Hero.....	British.....	P. E. Island	29	3	1	.....	.....
L. H. Smith.....	United States.....	Castine, Maine	51	7	2	.....	1
Princess Augusta.....	British.....	St. Andrews, N. B.	50	5	2	.....	.....
Pathfinder.....	United States.....	Gloucester, U. S.	67	9	2	.....	.....
Pointer.....	do.....	Duck Island, U. S.	74	6	2	.....	.....
Sam Knight.....	do.....	Le Moine, U. S.	58	10	2	.....	.....
Cape Ann.....	do.....	Hancock, U. S.	42	7	2	.....	.....
Nelly H.....	do.....	Eastport, U. S.	78	6	2	.....	.....
Fleetwing.....	do.....	Lamoine, U. S.	52	7	2	.....	.....
H. S. Boynton.....	do.....	do.....	69	19	4	.....	1
E. H. King.....	do.....	do.....	106	12	4	.....	1
Lizze Lee.....	do.....	do.....	92	12	4	.....	1
Eastern Queen.....	do.....	do.....	68	10	3	.....	.....
E. Brown.....	do.....	Gloucester U. S.	23	4	1	.....	.....
Josephine.....	do.....	Tremont, U. S.	66	8	2	.....	1
Whisper.....	British.....	P. E. Island.....	18	3	1	.....	.....
Columbia.....	do.....	do.....	32	4	1	.....	.....
A. Painchand.....	do.....	Magdalen Islands.....	36	4	2	.....	1
Engedi.....	do.....	do.....	25	4	2	.....	.....
Flora.....	do.....	do.....	34	4	2	.....	1
Total, 20 Vessels.....	.....	.....	1,070	135	43	.....	7

RECAPITULATION.

From United States.....	13 Vessels.....	846	108	32	.....	5
" Prince Edward Island.....	3 do.....	79	10	3	.....	.....
" New Brunswick.....	1 do.....	50	5	2	.....	.....
" Magdalen Islands.....	3 do.....	95	12	6	.....	2
Total.....	20 do.....	1,070	135	43	.....	7

GENERAL STATEMENT of the Catch of Magdalen Islands Vessels in 1872.—Continued.

RECAPITULATION.

Name of Vessel.	Name of Outfitter.	Tonnage.	No. of Flat Boats.	No. of Fishing Boats.	No. of Sailors.	No. of Fishermen.	No. of Shoremen.	No. of Herring Seines.	No. of Capelin Seines.	No. of Mackerel Nets.	No. of Herring Nets.	No. of Seals.	Cwt. Dry Cod-fish.	Haddock.	Brls. Mackerel.	Brls. Herring.	Galls. Seal Oil.	Galls. Cod Oil.
House Harbor	13 Vessels	536 48	40	40	...	120	120	...	...	...	...	1,294	4,680	...	...	...	5,730	2,400
Amherst Harbor	7 do	209 4	17	17	...	59	59	1	2	...	...	317	1,430	...	...	1000	1,700	755
Grand Total	20 do	745 52	57	57	...	179	179	1	9	...	...	1,611	6,050	...	...	1000	7,430	3,352

P. MITCHELL,
Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 1872.
(Certified,) W. F. WHITCHER.

APPENDIX G.

SYNOPSIS OF FISHERY OVERSEERS' AND GUARDIANS' REPORTS IN THE PROVINCE OF QUEBEC, FOR THE SEASON OF 1872.

SOUTH SHORE DIVISION FROM POINT LEVI TO CAPE CHATTE.

Alfred Blais, Overseer.

Fishing on the whole, was an average in this division. Quite a large number of fishermen have obtained employment on the line of the Intercolonial Railway, in consequence of which the fishery returns are less than they would otherwise have been. The following table shows the approximate yield and value of the principal fisheries for the last five years :

	1868.	1869.	1870.	1871.	1872.
Number of Salmon.....	4,545	5,758	9,574	4,432	3,371
„ Shad.....	32,242	26,987	16,249	25,035	18,410
„ Herring—barrels.....	30,117	13,135	6,671	2,169	7,174
„ Sturgeon—do.....	350	369	219	242	180
„ Sardines—do.....	11,702	10,262	6,638	1,443	1,668
„ Cod—quintals.....	3,100	4,600	4,900	2,200	300
„ Eels.....	160,242	99,500	109,125	109,204	73,300
„ Porpoises.....	12	77	203	115	0
Value of all the Fisheries.....	\$195,770	\$125,952	\$108,830	\$48,251	\$54,687

From this statement it is seen that the value of the fish caught this season exceeds that of last season by some \$600.

Rimouski River afforded good sport, forty-seven salmon having been caught with the fly, averaging twelve pounds each. Salmon were more plentiful in this river this year than any former season. There were angled in this river in

1865.....	8 Salmon
1866.....	22 „
1867.....	36 „
1868.....	48 „
1869.....	57 „
1870.....	18 „
1871.....	68 „
1872.....	47 „

There were caught in Metis River in

1870.....	19 Salmon
1871.....	30 „
1872.....	52 „

The average weight of the salmon this season was twenty-one pounds. The fishery laws have been well observed during the last two years. In 1869, thirty-three prosecutions

were made, and fines imposed amounting to \$59. In 1870, twenty-five offenders were fined \$114.

The lessee of the Grand Metis river reports that stream as being much injured by sawdust, which escapes from the saw-mill situated thereon.

CAPE CHATTE DIVISION.

Jos. J. Letourneau, Overseer.

The statistics of the yield of the fisheries of this division annexed to Dr. Lavoie's report, shew a decrease in each branch. The reason of such decrease is thus accounted for by the Overseer.

The Cod fishery failed for two reasons :—First. The fish were not as abundant as usual on the shores of this division during the summer. Second. Fewer boats were engaged fishing than last season, most of the people being engaged working on the Intercolonial Railway, or at the mill and shanties on the Magdalen River, where they were always certain of securing high wages.

Although Cod were again abundant during the fall, and boats used to catch from eight to fifteen quintals each, the yield was not large, owing to the people being mostly farmers. They were more anxious to secure their crops of grain and potatoes than to fish. The catch of Salmon with nets was not large, owing to continuous boisterous weather, and to many nets being carried away in the early and best part of the season, by the high state of the water,

Angling in the Ste. Anne des Monts River was better than last year; although the river kept very high, and urgent business prevented the lessee from fishing it more than four days, during that short space of time, twelve fish were caught of the total weight of two hundred and twenty-one pounds, and twice that number were lost.

During a visit paid to the upper part of the Ste. Anne des Monts River by the Fishery Overseer, he noticed that the spawning beds were full of breeding fish, especially that part of the river above the Chik-Chak mountains.

The same cannot be said of the Cape Chatte River. Mr. Letourneau ascended it for forty miles, and noticed only small trout and very few salmon. He attributes this delay in the restocking to the lawless practices heretofore carried on in this stream, and to the obstacle formerly presented to the ascent of salmon, by the mill-dam near the mouth of the river. It is confidently expected that with this obstacle now removed, and the successful prosecutions brought by Mr. Letourneau against pouchers, this stream may yet be restored to its former prosperous state.

PERCÉ DIVISION.

P. Libert, Sen., Overseer.

Reference to *Appendix B.*, will show the yield of the fisheries in this division for the present season.

GASPÉ DIVISION.

Jos Eden, Jr., Overseer.

The codfishery was excellent, far exceeding the results of last year. The average catch was 80 quintals per boat; some boats, however, taking as many as 150 to 200 quintals. The summer fishery yielded 24,700 quintals; the fall 6,735 quintals, amounting in all to 31,435 quintals. A large quantity of codfish and herring were caught at Anticosti, by the fishermen of this division, they preferring to fish there on account of the greater plenty of fish and bait.

The following figures show the results of salmon net fishing for the last three years :

In 1870.....	541 barrels.
„ 1871.....	460 „
„ 1872.....	343 „

The mackerel and herring fisheries were not so good as last year.

Several whales were killed this summer in Gaspé Bay, a thing which has not occurred for many years.

Details of fish and fish oils may be seen under *Appendix B*.

The St. John River yielded 51 salmon, having an average weight of about 13 lbs.

In the York River 78 salmon were taken with the fly, having a total weight of 1513 lbs., and an average of 19.4 lbs.

PABOS DIVISION.

Jas. M. Remon, Overseer.

This officer reports as follows :—Cod fishing has given on the whole, a better yield than last year, though probably owing to the large quantity of ice remaining in the Gulf late in the spring, the fish did not strike in so early as in 1871, which made prospects at first very discouraging. Things improved, however, towards the fall, and boats using trawl lines did very well, as long as the weather proved favorable. During October it became too rough and uncertain to allow of the fishermen doing much. The quality of fish cured was much inferior to that of last year, owing to unfavorable weather.

Salmon fishing was better than last year, although the fishermen were prevented by the roughness of the weather from setting their nets early. The first run of salmon was of very large size. The catch for 1872 shows 53 barrels against 49 barrels for 1871.

The catch of herring was good in the spring, but prices ruled so low in the markets that only enough were taken for home wants.

Capelin were more plentiful than formerly in this division.

Angling for salmon in the Grand River yielded 70 fish, of an average weight of 14 lbs. The lessee of the fly fishing division reports a full crop of young salmon from last season, which gives hopes of good sport for 1873.

Dr. Lavoie found it necessary to prosecute twelve parties in the neighborhood of Grand River for throwing cod offals in this stream. The offence was duly proved and the parties were severally fined, and promised not to offend in the future.

PORT DANIEL DIVISION.

William Phelan, Overseer.

The catch of fish in this division was excellent, indeed, above the average. This is all the more to be remarked, since a great number of the fishermen go to the Coast of Labrador and the North Shore for the summer fishing, returning about the middle of August to secure their harvest, and engage in the fall fishing. The success will appear all the greater when it is taken into consideration that more than half the usual number of fishermen did not fish, being engaged working on the Intercolonial Railway. Last year 591 was the number of fishermen returned; this year, only 275.

Salmon fishing was successful, those engaged in it being well remunerated. One hundred and ten barrels were caught, being an increase of fifteen barrels over last year's catch. Owing to the high freshets during the past season, salmon had ample opportunity afforded them for reaching their spawning beds in large numbers, and hopes are entertained of a good season's angling next year.

The cod fishery was attended with good results, the yield being large for the number of fishermen engaged. In 1871 the average catch was 37 quintals per boat; this year it was 67 quintals. The best fishing was during the months of July and August. Owing

to the frequent and heavy storms which prevailed during the latter part of the fall, comparatively little fishing was done; several boats were wrecked, and others badly damaged.

Mackerel fishing was not pursued this season.

Herring were not so plentiful as in 1871, there being only some 500 barrels seined, amounting to scarcely 25 per cent., of last year's catch.

Capelin were very scarce; 200 barrels were taken, while in the previous year 1,100 barrels were caught.

There were two cases of contravention of the Sunday clause of the *Fisheries Act*. The offenders were duly prosecuted by the Overseer.

NEW RICHMOND DIVISION.

- R. W. H. Dimock, Overseer.

This division comprises that part of the coast of Baie des Chaleurs extending from Paspebiac Point to the river Grand Cascapedia, inclusive. Within these limits fishing has generally been excellent during the past season; better than last year. The two most extensive fishing establishments in this division are those of Messrs. Robin & Co., and LeBoutillier Bros. Some idea of the extent of their business operations may be formed from the following:—They exported this year 61,534 quintals of codfish, 1,300 quintals of haddock, 235 quintals of ling, and 54,920 gallons of cod oil. Both these firms cure and pack their fish with the greatest possible care, and consequently obtain the highest prices for them in the foreign markets. The catch this year would undoubtedly have been much greater than is represented by the statistics had not a large number of the fishermen, fully one-third, left off fishing to work on the Intercolonial Railway.

Cod were fully as numerous as last season, although the catch is less by some 800 quintals. This is due, however, to the fact above stated, viz: the absence of so many fishermen. The average catch for the past three years has been, in

1870.....	62 quintals per boat
1871.....	51 " "
1872.....	62 " "

The herring fishery was better than last year. The yield is as follows:

In 1870.....	35½ barrels per boat.
In 1871.....	27 " "
In 1872.....	43 " "

Mackerel were also plentiful, some 84 barrels having been caught for the market, against 52 barrels last season, and 68 barrels in 1870.

Salmon fishing yielded far above the average this year, there being an increase of 11,196 lbs., over the catch of 1871, and 1,467 lbs., over that of 1870, which was an exceedingly good year. The average catch was in

1870.....	12 barrels per station.
1871.....	6½ " "
1872.....	10½ " "

The following figures show the results of salmon net fishing for the past three years:—

Year.	Weight.	Average Weight.	Heaviest Salmon.
1870.....	23,797 lbs.	17 lbs.	54 lbs.
1871.....	14,068 "	19 "	43½ "
1872.....	25,264 "	17½ "	42 "

The fly fishing for salmon on the Grand Cascapedia River was excellent. The River Bonaventure did not yield so many fish as last year, but they were of a larger size. The anglers, however, did not arrive until late, which accounts for the few fish taken. The figures below show the statistics of angling for the last three years :—

	Grand Cascapedia.			Grand Bonaventure.		
	1870.	1871.	1872.	1870.	1871.	1872.
Number of salmon caught.....	17	44	136	.....	60	30
Weight in pounds.....	340	1012	3100	.....	770	487
Average weight in pounds.....	20	23	22½	.....	13	16

In the Grand Cascapedia river two salmon were taken of 45 lbs., weight; four more above 40 lbs. each, and twelve over 30 lbs. The latter part of the fly fishing season was unfavorable to anglers, the river being too much swollen. This Overseer counted in Grand Cascapedia in the middle of September 224 salmon, and reported numbers in and between the pools which he was unable to count. In the Little Cascapedia, in the middle of October, 15 salmon were seen, the water being very high; and in the Grand Bonaventure, 120 salmon and 15 grilse were counted on the last of September.

MARIA DIVISION.

Elmine Allard, Overseer.

This officer was appointed last season to replace Mr. Beauchesne, resigned. The yield of salmon in this division is stated to be 347 barrels, against 221 in 1871. No violations of the law were reported. Detailed statistics of the yield and value of the fisheries of this division will be found in *Appendix B*.

MATAPEDIA AND RESTIGOUCHE DIVISION.

John Mowat, Overseer.

Salmon did not commence to ascend the Restigouche River in large numbers until the 14th June, but after that time the fishing was excellent. Mr. Mowat says: "This has been the most prosperous season for those engaged in fishing in my division for many years. In a few localities, from some unexplained cause, the fish did not run inshore, on which account stations that formerly gave a good yield produced nothing. I am satisfied that from Dalhousie to the head of the tide, on both sides of the Restigouche River, the average daily catch from 15th June to 7th July was 1,000 salmon. There are thirteen stations on the Quebec side of the river, and twenty-two stations on the New Brunswick side, and these gave an average of 29 fish per diem, which, rating each fish at 16 lbs., and 6 cts., per lb., would give about \$500 to each station for the season. I am quite within the mark in placing the export in tins at 200,000 lbs., in addition to which fully 50,000 lbs., were partly put up in ice, and partly consumed fresh. I have had very little trouble with tideway fishermen, as they are now forced to admit there is really a benefit in protection. Owing to their nets not being ready in time, the Indians of Mission Point were this season allowed to spear salmon, as they have been accustomed to do, but confined to that portion of the river between the mouth of the Matapedia and the head of the tide, a distance of six miles. Their nets will be ready in time next season, and no

more spearing will be tolerated in the Restigouche. It was not easy to keep them within this limit, as only a few years since they had the run of the whole river, but they took in all some 50 to 80 barrels of salmon. The fly fishing on the main river and tributaries has also been very good with the exception of the Matapedia, in which stream the water during the fishing season was altogether too high for angling. The debris from the Railway works may have made the fish shy, as I know they were plentiful in August, but would not rise well. I am safe in placing the whole number of fish caught with the fly at 500, of which one-fifth would be grilse. Formerly grilse were very scarce, but this year they were really troublesome, as also were the smolt and parr in August, a fact evidently showing a steady increase. About 60 salmon and 10 grilse were taken with the fly in the Upsalquitch, and above 80 salmon were counted in one or two of the pools alone in August."

Only some 20 fish were taken in the Matapedia, but two of these weighed 35 lbs., and 36 lbs., respectively. Some 200 fish, many of large size, were seen in the Patapedia River in the latter part of August. There is considerable disposition shown on the part of many of the settlers to evade the law, and fish on the sly, but the untiring energy displayed by Overseer Mowat and the staff of local guardians under his charge, has well nigh discouraged them. He seized and confiscated eight nets, two canoes and twenty-one salmon; the salmon, canoes, and two of the nets having been taken thirty-six miles above Matapedia, on the main Restigouche.

Operations were commenced last summer with a view to the erection of a Fish Breeding Establishment on Robertson's Brook, on the main Restigouche, about twenty-four miles above the mouth of the Matapedia, and the work is now in a forward state. The hatching of salmon ova will be begun next season. Mr. Mowat concludes his report by saying 'that his division shows every appearance of prosperity, both for angling purposes and commercial industry, each successive season producing a marked increase, which no doubt will continue under the energetic measures and fostering care of this Department.'

QUEBEC DIVISION.

D. Rosa, Guardian.—L. P. Huot, Overseer.

Mr. Rosa has charge of the lakes in the neighborhood of Quebec, and has satisfactorily performed his duties. He reports general compliance with the law, and an abundance of fish in the lakes under his supervision.

Owing to the excessive heat and low state of the water, angling does not appear to have been so successful as last season.

Lake Beauport was again last season set apart until the first of May.

As already stated in last year's report, Mr. Huot's division comprises the lakes in the counties of Montmorency and Charlevoix, and the fishing stations around the Island of Orleans. Reference to *Appendix D* will show the details of the yield of each fishery in this division.

With the exception of a few suspected cases of seining with nets of small size, Mr. Huot reports general observance of the law in his division. Fishing was generally as good as last year, with the exception of smelt fishing, which fell off about one-half, owing to the want of frost during the fall and the weather keeping altogether too mild for this kind of fishing.

Eel fishing was most abundant, especially in the neighbourhood of Cape Tourmente, where the fishermen say they never made such a catch. By looking over the statistics of last year, it will be noticed that the yield is one third more this year than last.

Bar fishing bids fair to become one of the most favorite sports amongst anglers; and sportsmen who resorted to the battures of Chateau Richer during the summer, never had cause to complain. As an example of the abundance of this kind of fish, Mr. Huot instances the fact of a fisherman who, during the short space of three months took from 30 to 40 fish per day, reaching some times as high as 60, 80 and 100, and in one tide he

took over 150 fish. No better example could be adduced of the wisdom of the Legislative enactments, which protect these fish when young, by prescribing :—

1st. That every fascine fishery shall be provided at the outside end with a net work, the meshes of which are required to be at least one inch square, and

2nd. That seines for bar fish shall have meshes of not less than three inches extension measure. Both of these provisions had one object in view, to allow the young of the bar to escape, and thus secure a fair restocking of the species. The results mentioned by Mr. Huot show that the object in view has been fully attained.

Trout fishing in the lakes of Montmorency and Charlevoix, was good. These waters were frequently visited during the fishing season, by anglers from Quebec and elsewhere. Lake Philippe appears to be the favorite, on account of the abundance of fish ; lake Gagne is however much liked, on account of the large size of its trout. Notices are annually posted in the neighborhood of these inland waters, and settlers are now fully cognizant of all the requirements of the law. No violations of the law are reported by Mr. Huot.

MURRAY BAY DIVISION.

C. Demeule, Guardian.

The fisheries in this division did not yield such large returns as last year. The statistics show a great decrease in the number of brush fisheries with nets ; there being 74 set last year, and only 29 this season.

The following figures, show the yield of the principal fisheries for the last two years :

	1871.	1872.
Number of Salmon.....	200	197
Number of Shad	224	Nil
Number of Herring,—barrels.....	211	130
Number of Eels.....	12,226	12,075
Number of Sardines,—barrels.....	185	118
Small fish.....	624	658
Fish for manure,—barrels.....	296	1,696

A considerable decrease is observed in the herring and sardine fisheries, which is to be much regretted. Three salmon were caught with fly in the Du Gouffre River, averaging twelve pounds each. The fishery laws were well observed.

SAGUENAY DIVISION.

Ferd. Saillant, Overseer.

This division extends from Canard to Bersimis River on the St. Lawrence, and comprises the whole of the Saguenay River and its branches, together with Lakes St. John and Kerrogami. For purposes of greater efficiency, it was considered advisable to dispense with the services of the former Fishery Guardian, Mr. Riverin, and to place the whole of the division under charge of Mr. Saillant, with instructions to employ local guardians during the fishing and breeding seasons. This system has worked well, and the law was enforced more strictly in the several localities of this division.

Mr. Saillant reports only two or three violations, and these of a very unimportant nature.

The yield of the salmon net fishing was as near as possible the same as that of last year, 3325 fish being reported as caught. The catch would have been much larger, had it not been for a north-east wind storm, which carried away the nets during the early and best part of the season.

A full description of the several angling streams in this division was given in Mr. Saillant's report of last year. They appear to have been well guarded during the whole of

the last season, as only a couple of slight infractions were reported, and these were punished. The following returns of the catch with the fly are given by Mr. Saillant.

River Ste Marguerite	N. W. Branch,	112 fish.
do.	N. E. "	53 "
Anse St. Jean River		13 "
Little Saguenay		4 "
River A Mars		3 "

Mr. Louis Boulliane of Anse St. Catherine, killed 19 porpoises and upwards of 100 seals, at the mouth of the Saguenay.

Godbout Division.

E. Pelletier, Guardian.

The cod fishery of this division of the coast has been excellent, surpassing the yield of many years past, and as good as has ever been known. The summer fishing is put down at 1855 quintals; 33 barrels of halibut were caught while fishing for cod.

The mackerel and herring fisheries are not pursued to any extent, only 8 barrels of the former, and 33 barrels of the latter, having been taken; 1500 gallons of whale oil are returned for Point des Monts.

The salmon fishery shows a decrease of some 100 barrels, which may in part be accounted for, from the fact that netting did not commence until the middle of June, instead of the first week in June, as in 1871.

The River Godbout yielded 275 salmon this year, weighing some 2,987 lbs., and averaging 11 lbs. each. There were caught in this river with fly, in 1869, 515 fish; 1870, 399 do.; 1871, 509 do.; 1872, 275.

Only two violations of the Fishery Laws occurred, in which cases the offenders were fined. The duties of Fishery Guardian were this year intelligently and efficiently fulfilled by Mr. Pelletier.

MOISIE DIVISION.

F. Thivierge, Overseer.

Full statistics of the yield of the fisheries in this division will be found at *Appendix E*. Codfishing was excellent, although the totals do not quite reach those of last year; the highest average being 270 quintals per boat.

Mackerel were also abundant, but this fishery is only pursued at the Seven Islands; the returns show a catch of 231 barrels against 74 in 1871. They remained in the vicinity of Moisie from the 15th of August to the beginning of October.

The catch of herring was better than last year, but as few people engaged in it on account of the low prices, the returns are small.

Capelin and lance were abundant during the whole of the season.

The salmon catch was about one fifth better than that of last year, the figures being

In 1870.....	1,152 barrels.
" 1871.....	742 "
" 1872.....	907 "

This improvement was especially felt inside the Moisie River; fishing not being quite so good outside, owing to the prevalence of easterly winds during the spring. Salmon were also much larger than in previous years.

Angling in the river was good. Sport was somewhat delayed, owing to the high state of the water in the river; but the lessees nevertheless caught in about a fortnight's fishing 219 fish, of the aggregate weight of 4,123 lbs. The largest fish weighed 37½ lbs, and the average weight was 18½ lbs. The number of fish killed last season was 279.

Trout River was not angled this season.

MINGAN DIVISION.

Philip Vibert, Jr., Overseer.

The fisheries, as a whole, gave good results, and the fishermen were very well satisfied.

Codfishing was not so successful as last year, the yield being in 1871, 50,317 quintals; this year 40,361 quintals, a decrease of about twenty per cent. The summer yield was 46,991 quintals in 1871; 36,206 quintals this year; the fall fishing 3,326 and 8,397 quintals respectively, showing an increase of 5,071 quintals over the fall fishing of 1871, which may be accounted for by there being less tempestuous weather this fall than last. Bait was plentiful during the summer, but the supply was scanty enough in the fall. For two weeks in August there was excellent fishing in Mingan Harbor, which very seldom occurs.

Salmon fishing fell short of last year's yield some 60 barrels, there being 426 barrels taken in 1871, and 364 barrels this year. The net fishing of St. John River yielded 4,020 salmon, weighing 53,214 lbs., averaging 13½ lbs. per fish, which yield exceeds that of 1871; 147 fish were taken with the fly, weighing 1,895 lbs; the average weight being 13 lbs. Although the pools were full of fish, yet the water was quite low and very clear, so that the fish would only take the fly on dull days. The lessee of the estuary salmon fishing of the Mingan River, only took 44 barrels this year; in 1871, 62 barrels. His catch would have been much larger had he set his nets sooner, the season here being earlier this year than last.

Mingan River was angled for a short time, and 130 salmon killed. Some difficulty was experienced with the Indians, they having set two trout nets inside the river; this was owing to their being so poorly supplied with provisions, only ten barrels of flour having been sent to them this year, to be divided among some sixty or seventy families.

The Romaine River was not angled this summer; in July there was a large number of salmon in the pools, which gives promise of good fishing next season.

Magpie River yielded 78 barrels of salmon.

Only eight barrels of salmon were taken at Jupitagan River, whereas 21 barrels were caught in 1871.

The herring fishery is carried on chiefly by schooners from Esquimaux Point; 4,600 barrels were caught this summer, while only 3,431 barrels were taken in 1871, showing an increase of 1,170 barrels. Herring fishing seems to be on the increase.

The seal fishery was very fair, but not as good as last year; 5000 were caught last year, while only 4,242 were taken this season.

The guardians are reported as having performed their duties in a satisfactory and efficient manner, and no violation of the fishery laws occurred during the season.

NATASHQUAN DIVISION.

G. Mathurin, Overseer.

The chief fisheries of this division, are the cod and salmon fisheries. They yielded considerably larger returns than last year. Cod fishing on the banks, off Natashquan especially, was very good this year; at Kegashka it was about the same as last season.

In 1871, on account of the rough and boisterous weather, the fall cod fishing was a total failure; this fall 515 barrels were caught. The summer fishing of 1871 was slightly in excess of this summer's yield.

Only 293 barrels of salmon were caught last year, on account of the very high state of the rivers during the salmon fishing season. The high water, however, permitted the salmon to reach their spawning grounds in much larger numbers than usual, and the beneficial results have been reaped this season. This year 580 barrels were taken, which is about double of last year's yield.

The herring fishery is also important, the yield being more than three times that of last season; in 1871, 114 barrels were caught; this year 588.

Washeecootai river was angled this season for the first time, by Mr. John Thomas Molson and party of three. Sixteen fish were caught in two days, of the average weight of 10 lbs., two rods only fishing at any one time. Fifty-one fish were caught in the Natashquan River.

WATSHESHOO DIVISION.

P. Gendreau, Overseer.

The salmon fishery was better than last year, 29 barrels being caught, against 20 in 1871. It would have been still better, had not the setting of nets been delayed by the ice.

Watsheeshoo River was not fished. The hope expressed in last year's report that the Department expected soon to be in a position to detect and punish the hitherto unmolested poachers, who had well nigh destroyed this valuable stream, has been accomplished. Reference to Dr. Lavoie's report in *Appendix B* will show that he succeeded in apprehending and fining three of the most notorious of that gang of poachers, hailing from Esquimaux Point, which had up to this time set the law at defiance. Such an example, joined to the valuable moral assistance afforded by the respectable portion of the population cannot fail to produce the best results.

Seal fishing was better than last year.

PACACHOO DIVISION.

Jean Legouvé, Guardian.

This division extends from Napittipi to St. Augustine River. Details of fishing will be found in *Appendix B*.

The yield of the fisheries in this division was about the same as that of 1871.

BONNE ESPERANCE DIVISION.

W. H. Whitely, Guardian.

God fishing was exceedingly successful during last season; the catch being about one-fifth above that of last year, which was also a very good season. There is a slight falling off in the yield of salmon, owing to the unfavorable weather which prevailed, in addition to which ice kept so long near shore that in several places nets could be set only for five days altogether.

Seal fishing was not successful, 400 seals only being caught, against 605 last year. A detailed statement of the yield of this division will be found in *Appendix B*.

ANTICOSTI DIVISION.

Full details of the yield of this division will be found in Dr. Lavoie's report, *Appendix B*. The Department had no Overseer there, owing to the dismissal of the former guardian, but one of the crew of "La Canadienne" was placed on the island during the season of salmon fishing. Arrangements will be made next year to secure better protection of the fisheries of this important locality.

MAGDALEN ISLANDS DIVISION.

J. J. Fox, Overseer.

The statistics of the fisheries of this division are given in detail in *Appendix B*, and a full report will be found, relative to the different fisheries of the Islands and the results of the present year's fishing, under the same appendix, by N. Lavoie, Esq.

Reference to *Appendix F* shows the number and tonnage, &c., of vessels employed in exporting the products of these fisheries to places within and without the Dominion of Canada.

The value of fish and oil, exported from the Islands is as follows :—

	1871.	1872.
To the United States	\$17,250	\$10,850
Prince Edward Island	10,403	2,250
Nova Scotia	98,827	58,420
New Brunswick	4,000	1,210
Quebec	18,195	21,020
Total	\$148,675	\$93,750

showing a decrease this year of about \$55,000.

The number of vessels employed in the fish-carrying trade was as follows :—

	1871.	1872.
To the United States	23	12
Prince Edward Island	23	8
Nova Scotia	86	39
New Brunswick	7	4
Quebec	7	11
Total	146	74

showing a decrease of about one-half.

The following statement shows the fish exports for the last two years, and the countries to which they were exported :—

	1871.			1872.		
	Mackerel. brls.	Cod. cwt.	Herring, brls.	Mackerel. brls.	Cod, cwt.	Herring, brls.
To the United States			17,250			10,850
„ Prince Edward Island			10,403			2,250
„ Nova Scotia	6,021	14,256	20,126	2,266	14,975	570
„ New Brunswick			4,000	74		507
„ Quebec	1,194	2,320	796	371	6,077	638
Totals	7,215	16,576	52,575	2,711	21,052	14,815

The Overseer says :—“ The number of boats engaged in the fisheries of this district during this season is less than that of last, over a hundred fishermen having gone to Labrador to fish for the Jersey establishment.

The number of vessels engaged in the seal fishery this season is less than last, owing to the Amherst Harbor vessels being driven ashore last autumn, and which could not be got afloat in time to proceed to the ice.

Two whales were towed into Cabane Cove, from which 2,162 gallons of oil were obtained.

No mail arrived from 25th November, 1871, to 25th of May, 1872. Herring were very abundant; twelve American and two British vessels took full cargoes in two days. Codfish were plentiful, but mackerel were scarce.

MAGOG DIVISION.

W. H. Austin, Overseer.

Owing undoubtedly to this Overseer's imperfect knowledge of his duties, this division is in great danger of losing the benefits derived from the active and intelligent guardianship of his predecessor, Mr. S. Copp. Complaints of illegal fishing, which Mr. Austin seems either unable to detect or unwilling to stop, are constantly reported to the Department. No annual report was received from this officer.

ST. FRANCIS DIVISION.

W. C. Willis, Overseer.

The past season has been unprecedented for constant freshets and high water in this district, but the ascent of salmon and other fish to their accustomed spawning grounds has on this account been greatly facilitated. The high state of the water moreover, afforded perfect immunity from net and spear.

Salmon, which were last year reported to have ascended Eaton River, after an absence of thirty years, are now beginning to make their appearance in several streams. Eight salmon were taken at Brompton Falls.

A gradual improvement in fishing in the lakes is observable. Several of the most noted poachers have been induced to take out fishing licenses, and thus aid in the protection of the fisheries, and many of them brought their fish to the Sherbrooke market and sold them, instead of taking them across the line as formerly. Trout sold as high as twelve cents per pound.

Fishing in Magog River was excellent, trout being taken with the fly of from three to five pounds weight.

Several persons have been fined for spearing and netting illegally on Megantic Lake, the effect of which will be very beneficial to protection.

RICHELIEU DIVISION.

H. W. Austin, Overseer.

The spring was unusually late, and fishing was consequently much delayed; but nevertheless, the catch was good, and fishermen express themselves generally well satisfied.

Eel fishing has this season proved almost a total failure; the extraordinary freshets and high water not only ruined the prospects of the fishermen, but, in many cases, carried away the weirs built in lattice work or stones.

The only eel fishery now built of stones is at St. Therèse; all the others are in lattice work, and cause no obstruction to the flow of water.

MISSISQUOI DIVISION.

P. E. Luke, Overseer

The shad fishery, which is the principal fishery in this Division, gave an excellent yield; 4,410 shad were caught, which were sold fresh, at from 10 to 12 cents each.

One hundred and eighty-two barrels of small fish were also caught, which sold at from \$7 to \$9 per barrel.

The total value of the above fisheries is about \$1,940; an increase of \$840 over last year.

OTTAWA COUNTY DIVISION.

W. L. Holland, Overseer.

The Fishery Laws in this District were well observed during the past season. Many of the people who formerly fished in utter disregard of law, have been prevailed upon to take out licenses, and thus strengthen the protection of the fish; and they now generally agree that to protect fish during their spawning season, is the only way to secure a constant supply.

Clay Creek Lake, in the township of Villeneuve, is well stocked with trout, pike, and bass.

Whitefish Lake is a beautiful large sheet of water, studded with small islands, and abounds in whitefish, trout, &c. It is situated in the Township of Bowman, and is one of the prettiest of the many lakes in the County of Ottawa. Fishermen seldom visit it.

In Thirty one Mile Lake, on the Upper Du Lièvre, whitefish, bass and speckled and grey trout are found in plenty. Lake Pemachongo and Whitefish Lake, on the Gatineau, are important lakes; but they are kept almost constantly dammed up by the lumbermen, which is very destructive to the propagation of the fish in them. Should a railway be constructed up the Gatineau valley, as has been talked of, these lakes will become of very considerable commercial importance, besides affording excellent sport to itinerant anglers.

DISTRICT OF TERREBONNE, MONTCALM, JOLIETTE, AND BERTHIER.

Joseph L. Loranger, Overseer.

Owing to numerous complaints, to which allusion was made in the Departmental Report of last year, that many of the inland waters of these counties were overfished and depopulated, to the profit of strangers from the States, who exported their trout to fashionable watering places, such as Saratoga, Niagara, &c., during the summer season, and sold them at a great profit,—it was determined to remedy this evil. For this purpose, a certain number of lakes were placed under special license to Canadian fishermen having both the capital and knowledge requisite to carry on this business, and Mr. Loranger was appointed by Order in Council, Fishery Overseer for this District. The result of the first year's operation of this new system is thus described by him:—"The licensees purchased from the former American owners all their stock in trade, consisting of nine ice-houses, eleven bark canoes, tents, blankets, fishing gear, &c., &c., for a sum of \$500; to this they added two horses, and two other ice-houses. From the first of July to the beginning of September, during which period the fishing was carried on, fifteen men were employed, with wages ranging from \$15 to \$28 a month, besides their board. About 400 pounds of trout were sold weekly, at the rate of 25 cents per pound, delivered at Joliette."

Owing to the excessive heat which prevailed during the whole summer, trout did not bite well. No less than sixty lakes were explored and fished by the licensees, all of which were tributaries of L'Assomption River. A map of these lakes is promised for next season. Some fifteen or twenty of these lakes contain no trout, and, in fact, no fish at all, they being prevented from entering their waters by obstructions of one kind or another in the outlets. Although the success of this year was not very satisfactory, the licensees intend next year to push their operations with greater energy than before, and to invest a capital of \$5,000 or \$6,000 annually in the business.

APPENDIX H.

REPORT OF S. WILMOT, ESQ., ON THE FISH-BREEDING ESTABLISHMENT AT NEWCASTLE, ONTARIO, DURING THE SEASON OF 1872.

The Honorable PETER MITCHELL,
Minister of Marine and Fisheries, &c. &c.,
Ottawa.

SIR,—Having reported to your Department in former years, as to the particularity of the science of artificial fish-breeding as applied here, it will be useless for me to touch upon the subject other than in a cursory manner in this brief report for the present year. I shall therefore merely state as succinctly as possible, what has been done in relation to general operations carried on in the Government Fish-breeding Establishment at Newcastle, which is under my immediate superintendence.

The work of the past season, or perhaps more properly called, the operations of the winter of 1871–1872, (from the fact that, during that inclement period of the year, the ova of the *Salmonide* tribes of fishes undergo the process of incubation and hatching out), may be considered to have been very successful, as the proportion of Salmon fry reared from the numbers of ova laid down, was much above the average of any former year.

This higher average is no doubt to be attributed to the greater amount of experience and knowledge gained in the art of artificial impregnation and other matters connected with this novel science. The process adopted by which this improved result was brought about, will appear at first sight to be almost contrary to, the workings of nature; for in the natural way, the ova and the milt of the parent fish, are deposited almost invariably in the rapid running parts of the stream, where a large volume of water constantly flows. From this fact then, it would be considered that the instinct of the fish had taught them that in this way the greatest quantity of the ova would become impregnated and a great number of their species reproduced. Yet it would appear from the improvements made yearly, by myself and others engaged in fish culture, that a greater increase of impregnated eggs has been secured through a contrary medium to that which is employed by nature. During my first experiment, I sought to copy as nearly as I could, the plan adopted by the parent fish themselves, in so far at least, as the placing of the ova when extruded from the female into as large a body of pure water as could be conveniently arranged for the purpose, and then adding thereto the milt, or impregnating fluid of the male fish. In each successive year I found, by employing a less quantity of water with the eggs, that a greater number of them became vitalized. Continuing this method of lessening the water supply annually, I also found an increased ratio of fecundated eggs during last season the greater portion of them were merely covered, whilst others had no water mixed with them at all, and the latter turned out to be most fruitful. Being satisfied with the results of these experiments, the process of impregnating fish-eggs at this establishment during the present season has been carried on without the admixture of any water during the time of fecundation, and I find, so far as present appearances indicate, that a far greater average of fry will be produced than during any former year.

It would appear that whilst this satisfactory result was annually presenting itself to me by the experiments above alluded to, similar improvements had been brought about in Europe. From a published article translated from the Russian language, which appeared in some of the public prints during the summer of 1871; I find a Mr. Vrasski, of Nickolsk,

in Russia had, at an earlier period, arrived at the same conclusions, and Dr. Atkins, Fishery Commissioner for the State of Maine, in his annual report of last year to the Legislature of that State, also gives his views in a very conclusive manner as to the increased benefits produced by him in applying the method used by Mr. Vrascki in impregnating fish-eggs; this method is now styled amongst Pisciculturists, "The dry impregnation system." The philosophy and practical benefits arising from this "dry method," though upon the face of it, having quite an opposite medium of application to that which nature employs, carries with it nevertheless strong reasoning in its favour; for it must appear clear that there would be a greater likelihood of the living fluid, or Spermatozoids coming in contact with the eggs, if both were confined within the smaller compass of an ordinary pan, and in the normal state in which each would flow from the parent fish, than if exposed to the large and rapid volume of water in a river or creek where a large portion of the milt would become intermixed with the water and carried away, thereby preventing the possibility of numbers of the eggs deposited in the gravel below from receiving any of the vitalizing fluid by which they would become impregnated. In the former case, each egg in the small confined limits of the pan would come in contact with the semen and become impregnated, but in the latter case, from the large body of water in which both the egg and the milt would be laid, the chances of impregnation would of necessity become much lessened in comparison with the other.

To this new method then, and to the increased knowledge obtained from close and attentive application to the subject, must this increased annual percentage of fry be attributed.

DISTRIBUTION OF YOUNG SALMON.

From the stock of young Salmon reared at this establishment in the spring of 1872 large distributions were made at different points throughout the country, and generally speaking were very successfully carried out. A great deal of close application and watchfulness is required in the operation of carrying young fry even short distances, but when taken on long journeys by railway, steam-boat or other means of conveyance, it entails additional labour, and very great anxiety of mind. The places and streams chosen for planting young salmon in last spring, were as follows:—Wilmot's Creek, Barber's Creek, Duffin's Creek, Highland Creek, the Rivers Rouge, Humber and Credit, all to the Westward of this place: to the Eastward, Grafton Creek, the Rivers Trent and Moira.

In addition to the above streams, I also selected a point near Mount Forest, on the Saugeen River, which empties into Lake Huron at Saugeen, with the object of carrying out, if possible, the experiment of introducing and acclimatising salmon in the waters of our great inland fresh water seas. This journey presented unusual difficulties, requiring extraordinary exertions to overcome them. First; carrying the fry in water cans to the railway station; then, after reaching Toronto by rail, having to wait at that city to exchange from the Grand Trunk line to the Grey and Bruce road, a portion of which near Mount Forest being unballasted at the time, made the passage very rough indeed. Upon arriving at that village, long after night, I was compelled to procure a conveyance in order to carry the cans (some eight in number) to some point in the river, where they could be placed in safety during the night, and where the fry would become refreshed for the onward journey next morning. Then taking them on again over a very rough road by carriage through a pelting storm to their final destination, was a work of great difficulty and anxiety. Notwithstanding all this, the greater number of the fish were conveyed safely and deposited in the Saugeen River, some at Mount Forest and the balance several miles further down.

It is to be hoped that the results of the experiment may prove satisfactory, and that by planting these superior fish, in waters from which there is no easy or direct access to the sea, they will become naturalised and acclimatised thereto, and produce beneficial results to the inhabitants of this section of the country. In a scientific point of view it may also prove interesting and instructive in solving the question, whether salmon can be acclimatised to other than their natural waters. I purpose continuing this experiment on the Saugeen River for several years to come.

A no less interesting experiment was made during last July, by introducing into the waters of the Ottawa a number of young fry. After a preliminary examination made by the Commissioner of Fisheries, Mr. Whitcher, the Salmon River was selected by him, in which the enterprise of reproducing salmon should be tried; this river empties into the Ottawa about forty-six miles below the Capital. A very clear and comprehensive report of its capabilities for producing salmon if once restocked, was made by Mr. Whitcher, and published in one of the appendices to the general annual report of your Department, of last year, wherein it was recommended that some thousands of young fry should be taken from this establishment and placed in that river, with a view to restoring it, by natural and artificial culture, to the position of a productive salmon river. Accordingly, in the latter end of June last, I left here with several thousand little fish for that purpose. They were placed in cans made of finely perforated zinc, which fitted into larger pails, partly filled with water; the perforated cans were only half the height of the outer pails, leaving the space above for the lodgement of ice, which, as it melted away, dropped into the cans below, thus cooling and aerating the water. By this means, and with unceasing care, the young salmon were conveyed to Ottawa by railway, without much loss. Then the perforated cans containing the fish were taken out, and sunk into the river over night. On the following morning, they were again put into the pails, and conveyed by steamer to Monte Bello, near to the mouth of Salmon River, and thence by canoes up the stream, until a favorable point was reached for distributing them. The place selected by Mr. Whitcher, who accompanied me from Ottawa on this occasion, and who rendered most painstaking and valuable service in the carrying out of the enterprise, was at a turn of the river, some miles up from its mouth, where the stream ran over a beautiful gravelly bed,—there, and at other similarly advantageous points further up, the young salmon were let loose. After being liberated from the close confinement of the cans, they took to their new abode with much evident pleasure, swimming and darting about in the rapid current till they found a safe lodgment, either beneath, or alongside some rock or stone, where they at once commenced the duties of life, by being on the alert, and searching for the necessary food for their sustenance and growth. Notwithstanding the innumerable difficulties and trials the little creatures had to undergo on the voyage there, by means of railway and other modes of conveyance, together with the extreme and oppressive heat which prevailed at that season of the year, the losses were, comparatively speaking, very slight indeed. On a repetition of this work during next season, an earlier period will be selected, and then, in all probability, no losses whatever will occur.

Mr. Whitcher informs me that he has since repeatedly visited the stream, and found the young fish thriving most favorably.

TRANSPORTING THE FISH IN THE EGG STATE.

Another mode which was adopted last season for transporting the fish to distant points, was to convey them in the egg state, some time before the season of their hatching out, and at a time when the embryo had become sufficiently developed and had also obtained strength enough to stand handling and carriage.

Being desirous of planting a number of fry in the waters of the River Credit, I selected a place called Alton, on that stream, about fifty miles from Toronto by railway. There, in the middle of April last, I carried a few thousand living salmon ova, in small glass jars, filled with water. Upon arriving there, I caused to be made a small pine trough, about six feet long by ten inches wide and six deep; this was placed in the lower part of a flouring mill, situate on the river; through this box or trough a small jet of water was made to flow constantly; fine gravel was placed at the bottom of it, and then the eggs were scattered over the gravel. No losses resulted to the ova during their transportation; they were left in charge of Mr. Higgins, the local guardian of the river, to whom I gave every necessary instruction relating to them, and I afterwards learned that they were duly hatched out and transferred to the river.

WHITE FISH.

A large number of white fish (*Coregonus Albus*) was reared in this establishment during the past season. When hatched out, they were distributed by pails full in the waters of Lake Ontario, a few were kept in a small pond (made expressly for them) or experimental purposes. Some of these, at the closing over of the pond with ice, had attained quite a considerable growth.

SALMON TROUT.

A quantity of salmon trout ova was also laid down here; though not so successful in the percentage reared as I could have desired, yet, quite a number were produced. The limited size of the establishment has, hitherto, prevented me from being able to lay down any great quantity of the ova of this valuable fish. When sufficiently enlarged and extended, every effort should be made to turn out, annually, immense numbers of young salmon trout.

SALES OF OVA.

The amount of ova disposed of to foreigners was not as large as during the previous year. The cause to be assigned for this decrease in sales, may be explained as follows:—The Fishery Commissioners of Maine, Connecticut and some other States of the Union, had combined to procure salmon eggs in some of the rivers of their own country. Dr. Atkins, Commissioner for the State of Maine, was deputed by several of the other States to make a strong effort to procure some parent salmon, in the Penobscot River, in Maine. The arrangements made were that, should any eggs be secured, they were to be divided *pro rata* amongst the several States that had engaged in the enterprise. Dr. Atkins, after zealous and energetic application, was somewhat successful in getting a limited supply of ova from salmon purchased from fishermen on the Penobscot during the netting season; these were conveyed up the river in scows to some convenient point, and there penned up until the spawning time. When matured they were manipulated, and the ova laid down in a temporary establishment, where they were retained until sufficiently vitalized, when they were forwarded to the several Commissioners who had entered into the arrangement. This was the principal cause why no sales of any magnitude were effected with these States. Another reason, no doubt, was, that the price put upon the impregnated eggs at this establishment was considered too high, and therefore they were beyond their means of purchasing.

The success attending the operations of Dr. Atkins during the season of 1871–1872, induced all the parties engaged in the enterprise, as well as others who joined them, to go more extensively into the work for this season. A general meeting of the Commissioners, as well as of all others who might feel interested, was called in the city of New York during last spring, when it was agreed that the necessary funds should be raised for the erection of a large fish-breeding establishment, with all the necessary appliances, on the Penobscot River. Dr. Atkins was to superintend this work, and it was to be built upon such a scale as to warrant the expectation that all of the States requiring supplies of salmon eggs could obtain the quantities required. Dr. Livingstone Stone was authorized to proceed to California, and procure a supply of eggs from the Sacramento and other rivers there, and forward them, by the Pacific rail, to the several States that might require them.

The success which has attended the operations at the Penobscot establishment, for this season, I have not, up to the present time, been able to ascertain; but, from what I have noticed in the public papers concerning the Californian enterprise, I should judge it has not, thus far, proved to be of a very satisfactory nature.

The frequent visits made by several of the Fishery Commissioners from various States of the Union, to this Establishment, since the first inauguration of artificial salmon-breeding by man in this country, will show the deep interest they have taken in this new industry; and, judging from the strong efforts the American Commissioners are now

making to have similar establishments themselves, in order to produce supplies of impregnated salmon ova, for distribution in their own country, it may be reasonably inferred that few, if any, foreign orders for ova will be received here during the coming season.

INCREASE OF PARRS AND SMOLTS.

During the whole of last season, large numbers of parrs and smolts were observable in the stream here. Quite a number of the latter were entrapped in a box at the foot of a small pond. Their only means of getting to this box, was through an underground tube for conducting water from a portion of the main creek to this pond. Judging by comparison from these which passed down through this dark passage and small body of water, the numbers in the large body of the stream must have been very great; and, whilst fishing in the creek, during the summer season, it was a common occurrence to take many smolts with the fly. In the latter part of the season, more particularly at the spawning time of the salmon, hundreds of small parrs might have been easily counted on a bright day, basking on the shallow rapids of the creek. This would indicate that large numbers of young salmon were now natives of the stream, and were only awaiting the time when instinct would teach them to migrate to the larger waters below, where they would procure a greater supply of food, and become matured.

LONGEVITY OF SALMON WITHOUT FOOD.

In the autumn of 1871, during the latter part of the month of October, four adult salmon and a grilse were placed into a small pond or reservoir, filled with water, alongside of the breeding-house, just after they had been manipulated. This reservoir is supplied by means of an underground pipe, at the head of which a perforated zinc grating is placed, to prevent small fish, leaves, and other refuse from entering. The pond is about 60 by 20 feet in size on the surface, sloping downwards to the bottom, with a constant depth of about four feet of water. These salmon were put into this pond from curiosity, so that visitors might see them more plainly. Shortly after being placed therein, a sort of white fungoid growth appeared upon them, some having more of it than others. This fungus is of a parasitic nature, and is found almost invariably upon sickly and injured or bruised fish, and generally results in their death, after a short time. In the end of November following, the pond became frozen over, and remained closed till the following April. It was not expected that these fish would be found alive in the spring, for it was supposed that they would be without food; and an opinion generally prevails that fish cannot live "where the surface of the water is wholly covered with ice, as it prevents the possibility of air reaching them." But, so soon as a small opening was formed in the ice at the head of the pond, by the sun, in April, these salmon all made their appearance, quite bright in color, and the fungoid growth cast off. They were, however, very poor and lank in appearance. When the ice wholly disappeared they were to be seen sporting about the pond, frequently leaping to the height of two and three feet out of the water. They were never seen taking any food, although it was frequently thrown to them. The screen at the head of the pipe was then removed, when large numbers of small fish came into the pond, such as chub, shiners, parrs, smolts, &c., but in no instance could these salmon be found taking any of them. Worms and bits of meat of several kinds were frequently thrown in, and close watch made, but nothing of a substantial nature seemed to entice them.

An expert fly-fisherman visited the establishment during the last of May. His tally of salmon, taken with the fly on the River St. John, on the North Shore, in 1871, is unprecedented. With permission, he cast a trout-fly in the reservoir, to catch one of the many smolts for inspection, when one of these salmon rose to it. Changing the trout to a salmon-fly, a salmon was soon landed; and, upon examination, he was found very lean, and would weigh about ten pounds. Being unhooked, he was let loose into the pond again. Upon several occasions afterwards these salmon were taken in like manner; but, in no instance could they be induced to take bait or food of any kind. In July, when

the water became very warm, they got very black in color, and skeleton like; some of them became blind, and, at last, all died. Upon dissecting them, nothing whatever was found in their stomachs. The gullet appeared so contracted as to lead to the belief, at first sight, that it was wholly grown together. I am quite firm in the belief that no food of any kind was taken into the stomachs of these salmon, from the month of October till they died in July, covering a period of eight months; and, in all probability, even a longer time may have elapsed without food having been taken by them, as it is justly held that salmon quit feeding after leaving salt water. This would extend their fasting time to thirteen months, as the month of May or June, of the year previous, would have been the time in which they would have commenced their migration from the sea. In the case of these fish a peculiar anomaly exists: they would take the artificial fly, but not a natural one, or any other description of food.

EVIDENCES OF SALMON IN 1872.

Wilmot's Creek.—The numbers of fish returning to this stream for spawning purposes, during last autumn, were very satisfactory. They were to be found in almost every pool and hiding place throughout the creek. From ten to twenty, and even upwards, could be seen daily underneath the bridge which crosses the main gravelled road; and the public travelling over it, were pleased and delighted at witnessing such unusual quantities in the stream. For nearly a mile below the Fishery buildings, every available spot in the creek, where gravel was to be found, was worked up into a spawning bed by the salmon, whereon thousands of eggs must have been laid in the natural way. Over and above the ova thus deposited in the bed of the stream, some hundreds of thousands were taken from the parent fish by hand and laid down in the breeding-troughs.

Grafton Creek.—Salmon were not as numerous here as during some of the previous years. The very severe drought which prevailed at the spawning season, so reduced this stream, as to almost wholly prevent the possibility of fish getting into it from the Lake. During the prevalence of a small freshet, a number reached the reception house built upon it, when a large quantity of eggs was secured, and transported to the Newcastle Fishery. From the lowness of the water in this stream, great numbers of the salmon were compelled to lay their eggs on the gravelly beach, on the Lake shore. These, as a matter of course, would all be lost.

Trent River.—I was informed that a considerable number of salmon frequented this river during last autumn. As it is a stream of some magnitude, it will be very difficult, for the present, to give any exact account of the reproduction there.

Barber's Creek.—Is situated a short distance to the west of Wilmot's Creek, and runs through the town of Bowmanville. Being informed that a large number of fish had entered it and were being killed, I immediately appointed a guardian to take charge of the stream. He caught an offender violating the law, and had him summoned before the mayor of the town and fined. At the trial, it was brought out in evidence under oath, from two witnesses, that "they had seen, at that time, more salmon in Barber's Creek, than they had for the past fifteen years, if all were put together."

Lynd's Creek.—Is still further to the west, and runs through the township of Whitby. Mr. Kerr, the energetic fishery officer in charge of that district, writes: "There were fifteen salmon beds on that stream, during last fall." This is the best evidence of these fish returning to that creek.

Duffin's Creek.—Still to the westward. The same authority reports a "splendid show of salmon here in October and November; about one hundred and twenty in number, leaving behind them fifty beds." This account is very encouraging.

The Rouge.—Some few salmon were found in this river, a long way up, in the township of Markham. It is a long time since any were seen there before.

The Humber and Credit Rivers.—I have been informed that a few salmon entered both of these streams.

The above mentioned rivers and streams, with the exception of *Wilmot's Creek* and *Grafton Creek*, were not visited by me during last autumn. The very close attention

required during the spawning season, (which is very short), at the two streams mentioned, together with the labor and urgent attention requisite in procuring salmon trout and white fish eggs, which also need gathering at the same season of the year, so occupied every moment of my time, that I found it quite impossible to give any inspection or devote any attention to the several other streams, where it was reported that salmon had entered. From the accounts which I have briefly given of them, and from the information which I have obtained from the officers and guardians in charge, it cannot be denied that strong evidence is given of the return of salmon to all these waters.

DECREASE OF STREAMS.

In many of the creeks running into Lake Ontario, a serious draw-back to the reproduction of salmon is occasioned by the annual decrease of the volume of water running through them. And, I fear, it is a growing one, from this fact—that, as the country becomes cleared of its wooded lands, the sources of the streams get more exposed to the rays of the sun and the action of the atmosphere, and the increased absorption and evaporation thus produced has the effect of diminishing the flow of water which formerly ran through these creeks into the Lake.

It is always found at the mouths of these creeks, where they enter the Lake, that a long, narrow, gravelly beach is formed by the action of the lake water during rough weather. In former years the stronger current would keep a passage open through this gravel, and form an entrance by which salmon would pass up from the lake. But many of the streams nowadays have become so much lessened in size and in the flow of water from the causes above described, that a channel or passage through this beach is not kept open, and the water percolates through the bed of gravel into the Lake. Practical observation now shows that salmon, in many instances, are unable to enter these streams; they are therefore compelled to lay their eggs upon the gravelly sandy shores of the lake, where, with the first storm of wind they are either washed on shore, or deeply imbedded in the sand and wholly lost. This difficulty has been experienced this season, and as it increases, it will militate very much against the reproduction of salmon in such localities.

IMPREGNATED FISH EGGS NOW ON HAND.

It may be safely calculated that, at the present time, there are *three hundred and fifty thousand* living salmon eggs undergoing the process of incubation in the breeding-troughs here. Their present healthy appearance and soundness are true characteristics of strong fecundation; in fact, the embryonic structure is already noticeable in most of them, and, unless from some unforeseen causes that might arise, no doubts need be apprehended of the successful hatching out of almost the whole of them into living fry.

There is also nearly a *million* of white fish eggs, in a similar stage. These, unlike the salmon ova, (which are laid on glass grills or trays,) are kept in finely perforated zinc pans. By this means, they are kept within the perfect control and management of the assistant, both for the purpose of picking over, and cleaning them. These pans, also, from the very small perforations, prevent any losses of the little fry, after hatching out.

Being very minute in size, great numbers escaped in former years and were lost. The appliance now used will prevent this in the future. A very large number of these young white fish will be in readiness for distribution in April next. There are, also, a large quantity of salmon trout ova on hand, which were collected in the Georgian Bay near Thornbury, in November last.

INFORMATION TO PERSONS WANTING OVA.

Should any applicants be desirous of procuring supplies of impregnated eggs or young fry, either of the salmon, salmon trout, or white-fish, for planting in the waters of this

country, they should leave timely notice of their wants at your Department in Ottawa, or at this establishment, giving, in their application, a particular description of the locality, and, as near as possible, the nature of the water in which the ova or fry are to be placed. Whereupon, every possible information will be given them, as to whether it would be judicious to put the eggs, or the young fish, in the waters or places so described; for, if neither the locality nor the water were found to be suitable, it would be very unwise and unsafe to deposit them there, as it would prove, in the end, to be a failure and loss to all concerned.

INFRACTIONS OF THE FISHERY LAWS

Some important cases of the violation of the Fisheries Act were brought before the authorities by me, during the past season. One, where two old offenders were summoned before a Justice of the Peace, for fishing in the waters of a creek, which had been set apart specially for the natural and artificial propagation of salmon. The case was fully proven to the satisfaction of the Magistrate, and the guilty parties each fined in the sum of one hundred dollars. One, the more innocent of the two, (if such term can be applied, when both were guilty,) paid a portion of the fine at once, requesting time for the payment of the balance. The other, a most wilful and determined violator of the law, appealed from the Magistrate's decision to the Sessions. At this latter court, the case was again proven clearly to the satisfaction of the Court, yet, the jury, sympathising with the offender, let him off.

It is generally found, in cases where the Crown is the prosecutor, and the crime a violation of the Fishery or Game Laws, that juries too frequently throw aside the dignity of the office and the duty they owe to the public, and so far forget themselves, as to act, in many instances, as partisans and sympathisers with an offender, no matter how guilty he may be found of the offence for which he has been arraigned.

The actions of juries, in cases of this nature, call forth the necessity of a change in that portion of the Fisheries Act wherein an appeal is allowed from convictions made by magistrates for breaches of that law.

Another most wilful and flagrant violation of the law was perpetrated on the creek of the Grafton fishery, the actors in which remain undiscovered. Some fifteen vagabonds, with blackened faces and otherwise disguised, drove in waggons to that place, about one o'clock on a Sunday morning in October last, and demanded admittance into the building used as a reception house, in which, at the time, a number of salmon were gathered for safety, and also for procuring from them their eggs when matured. These burglars and incendiaries (as they were engaged in both crimes,) attempted to break into the building, and also to set it on fire; but, finding the two guardians within, they desisted. Leaving there a portion of their number to keep guard over and intimidate the keepers, the rest set about with torch-light and spear, and killed what salmon were to be found in the creek below. As the water was very low and clear, none of the fish escaped destruction. The marauders then drove off into the country, and, up to the present time, have not been discovered, although strong inducements have been offered, by way of reward, to any one who may be the means of bringing before the officers of the law any of these villains, and of having them convicted.

I mention these cases incidentally in this Report, to show how easily, in a few hours, by such diabolical means as the one last mentioned, years of labor, spent in the restocking of a small stream with salmon, may be almost wholly obliterated. Add to this a general lukewarmness on the part of the local authorities in assisting to vindicate the law; and, as in the first case, juries sympathising with, and then freeing the guilty parties. These circumstances cannot but convince your Department and the intelligent people of this country, how hard and difficult is the task, and how trying it is to the zeal and energy of any one, to prosecute to a successful issue any new industry or public undertaking, no matter how much it may have for its object the improvement or welfare of the country.

In connection with this Report, I enclose a correspondence, covering the presentation of a silver medal to me, by the celebrated Acclimatization Society of France, as a recognition of my services in the science of Pisciculture.

I have the honor to be,
Your obedient servant,

SAMUEL WILMOT.

Newcastle, 31st December, 1872.

ACCLIMATIZATION SOCIETY.

[Founded 10th February, 1854.]

PARIS, 11th April, 1872.

To Samuel Wilmot, Esq.,
Newcastle, Ontario.

SIR,—I have the honor to inform you that the Acclimatization Society, upon the recommendation of its Committee of Rewards, has awarded to you a first-class medal, for your achievements in the work of Pisciculture.

This prize will be presented to you at the Public Annual Meeting of the Society, which will be held on the 26th of April, 1872, at the hour of 2 o'clock, precisely, at the Hall of the Horticultural Society, Rue de Grenelle, No. 84.

Receive, sir, the assurances of my most distinguished sentiments.

A. GEOFFREY W. HILAIRETTE,
Secretary-General.

P.S.—Particular seats will be reserved for the medallists, and this letter will serve as an entrance card as well, as the special cards are to be distributed at the office of the Society, Rue de Lille, No. 19, at the hour of 4 o'clock, p.m.

Lord Lyons to Earl Granville:

PARIS, April 27, 1872.

MY LORD,—On the 20th inst. I had the honor to receive a request from M. Drouyn de Lhuys, as President of the Société d'Acclimatation, to receive and forward to their destination medals which were to be awarded to certain British subjects who had distinguished themselves in promoting the object of the Association, but who were unable to attend in person. I have now the honor to transmit to your Lordship, herewith, a medal which has been awarded to Mr. Samuel Wilmot, of Newcastle, Canada, for an "appareil de pisciculture," and to request that Your Lordship will cause such steps to be taken as may seem to you proper for the transmission of the medal to the gentleman to whom it has been awarded.

I have, &c.,
(Signed,)

LYONS.

EARL GRANVILLE, K.G. &c.

The Secretary of State for the Colonies to the Governor General:

DOWNING STREET, 6th May, 1872.

MY LORD,—I have the honor to transmit to your Lordship a copy of a despatch received through the Foreign Office from Her Majesty's Ambassador at Paris, enclosing a medal awarded to Mr. Wilmot of Newcastle, Canada, and I have to request that you will cause this medal to be transmitted to the gentleman for whom it is intended.

I have, &c.,

(Signed,)

KIMBERLY.

Governor General, The Right Honorable
LORD LISGAR, G.C.B., G.C.M.G.

GOVERNOR GENERAL'S OFFICE,
OTTAWA, May 22nd, 1872.

SIR,—I am directed by the Governor-General to forward you herewith a copy of a despatch and enclosure from the Secretary of State for the Colonies, transmitting a silver medal which has been awarded to you by the Société d'Acclimatation of Paris.

I have the honor to be, Sir,

Your most obedient humble servant,

F. TURVILLE,

Governor's Secretary.

S. WILMOT, Esq., Newcastle, Ontario.

APPENDIX I.

To the Hon. P. MITCHELL,
Minister of Marine and Fisheries, &c., &c., &c.,
Ottawa.

SIR,—I have the honor herewith to submit to your Department, a report on the selection of a site for, and the cost of construction of, a salmon-breeding establishment on the River Restigouche.

After examining the Dartmouth River Falls, in accordance with your letter of instructions of July last, I took the Gulf steamer at Gaspé, *en route* for Dalhousie, at the head of the Bay Chaleur. Upon arriving there, I travelled by the stage road to Matapedia, and proceeded up the Restigouche River with the view to select some one or more suitable places upon that stream for carrying out the enterprise of artificial salmon breeding, and to comply with your Departmental instructions relating thereto. The day after my arrival at Matapedia, I sought an interview with Mr. Mowat, the local Fishery Officer of that district, and after a conference with him, procured a conveyance and drove across the country to his residence called "Dee Side," on the banks of the Restigouche. On the following day I obtained the necessary supplies for my journey, together with men and canoes, and commenced towing up river, examining at the same time minutely the several places that presented themselves, with a view to select one or more sites adapted for the object of my mission. Very near to the point of starting, I noticed a beautiful mountain stream called "Robertson's Brook," which entered the river a short distance above where the residence of the Overseer is situated, but being informed that numberless other streams and brooks would be found emptying into the river at various points between this and the confluence of the Tom-Kedgwick (Qnatouamkedgwick), one of the principal tributaries of the Restigouche, I considered it advisable to reach that point, and examine by the way the several rivulets and sites that might be made available, so that upon my return down river, I would be better enabled to make a judicious selection.

A journey up the Restigouche is of necessity somewhat slow, on account of the very strong current of water which passes down its bed in a continuous and rapid flow, and very little difference is noticeable in the swiftness of the river between the point where the Matapedia enters and the confluence of the Tom-Kedgwick, which is some seventy miles higher up. If it may appear somewhat tedious in travelling up this beautiful river, the speed with which you return down it, will make full amends; for whilst it generally takes three days to reach the mouth of the Kedgwick, one will suffice to accomplish the same distance in returning. In the study of nature, or in the admiration of that which is really beautiful, no one would regret a trip up the Restigouche. Its clear, transparent, limpid and highly aerated waters, are as cool and grateful to the palate in midsummer as spring water itself. The beautifully wild and indescribable grandeur of its scenery is almost beyond description. At many of the windings of the river a general panoramic view is produced, impressing one with the idea of some mighty amphitheatre situated in the midst of "nature's wilds," which completely dazzles the eye with delight, and for the moment almost overcomes the mind with awe. Add to this the musical sound of the sparkling and foaming rapids, through which you are constantly passing, and all combine to make the far famed Restigouche one of the most desirable rivers on this continent either for the tourist or the sportsman to visit.

During the first day's journey up river I noticed two or three very beautiful mountain brooks, at each of which I landed from the canoe and closely examined them, and journeying on I camped over night near Tom's Brook, a very pure clear stream, but upon inspection found it would be too inaccessible for the purpose of artificial fish culture.

On the following day I reached the "Indian-pool Brook." This stream would appear well adapted for fish breeding purposes, entering the river as it does just where there is an old clearance with a small house upon it. It has a sufficient supply of beautifully clear water, with easy facilities for damming and forming ponds, in which a large supply of parent fish could be placed, and also for keeping young fry. Its temperature is very low indeed, as in July, when I examined the stream, I found the water so cold that it was almost impossible to keep one's hands in it beyond a few moments. This cold temperature, I fear, would very much retard the incubation of fish ova, keeping the fry from hatching out, perhaps until June or July. This would be detrimental, as so short a period would be left for the growth of the young fish during the remainder of the season, and before the extreme cold of the winter would set in. I found that no difficulty would exist here in procuring a large supply of parent salmon, from which ova might be obtained, as the brook enters almost immediately into the famous "Indian-House Salmon Pool", out of which large numbers of salmon are annually taken by fly fishermen and others.

Proceeding onward, I came to the Patapedia River, a tributary of some magnitude; it enters the Restigouche upon its left bank, just at the boundary between the Provinces of New Brunswick and Quebec. It is said to be navigable for some thirty miles, and is reported to be exceedingly rapid in its flow. At this point the river appeared quite too large for my purpose, and being anxious to proceed upwards to the Tom-Kedgwick, I did not further examine the Patapedia.

Towards night I reached a pool called the "Devil's Hole," near to which a small spring brook enters, and here I camped over night. This little stream I found quite too small for the purpose desired.

Next morning I proceeded up stream, through a number of fine salmon pools, to a point near the confluence of the Tom-Kedgwick with the main river, passing several streams; none, however, appearing well adapted, or sufficiently satisfactory in their location for my object. Whilst preparations were being made for the night, I pulled up the river a short distance, to where the watchman of the Kedgwick was encamped; from him I received valuable information as to the capacity of the river and its general adaptation as a natural spawning ground.

The policy pursued by Mr. Mowat, the general Overseer of the Restigouche, in appointing a local watchman at the mouth of the Kedgwick, during the migratory season of the salmon, is practically sound and judicious. No one can go up the Kedgwick without passing the point where the keeper has his shanty or cabin, and as he makes frequent trips up and down in his canoe, it is scarcely possible that netters or others, who might be desirous of poaching, could pass by him, or place unlawful engines of any description for taking salmon in that stream, without speedy discovery.

As the Kedgwick had been set apart exclusively for the natural breeding of salmon, I felt great anxiety to traverse it, with a view to closely examine and report upon its natural facilities for that purpose; but having a large amount of duty to perform elsewhere, time was not permitted me during this season for doing it. The keeper informed me that when making his rounds up and down the river, he had seen large numbers of salmon in the upper reaches and pools.

The Tom-Kedgwick River is navigable from its mouth for a distance of upwards of forty miles, and extends about seventy miles in a north-westerly direction into the high lands, where it takes its source, and is fed by numberless mountain brooks and springs of the purest water. An almost unbroken communication may be had with the head waters of the Restigouche and Grand River—a tributary of the St. John; only a short portage intervenes. This route is frequently used by lumbermen, voyageurs and others, who desire speedy transit between the upper waters of the St. John and Restigouche Rivers.

After camping over night at "Jim's-Hole," about two miles below the mouth of the Kedgwick, I made preparations for retracing my journey down stream. At this portion of the river, and in many others as well, I was particularly struck with the very evident signs of the increasing reproduction of salmon. This has, no doubt, been especially brought about by the efforts of your Department in causing the close season to be more generally kept and observed, and also in the prevention of netting at any time in the upper reaches and pools of the river. In addition to this, the setting apart of the Kedgwick for the natural propagation of salmon, is not only now, but will be in the future, productive of great and lasting benefits to the river and tidal fisheries. The evidences of success referred to, were the unusually large numbers of grilse that were to be found at all points in the river; so numerous were they that many of the old fishermen and others remarked, that 'a new run of fish were frequenting the river of much smaller size than formerly.' A most remarkable fallacy frequently exists amongst old fishermen and others upon the rivers, and it is this:—that grilse are a distinct fish from their parents, the salmon. No more unmistakable sign of the improvement of a salmon river, or that its standard is being maintained, may be looked for, than when a goodly number of these new run of fish or grilse, frequents its waters.

Travelling downwards I again examined some of the streams referred to on my journey up, but I found none so well adapted or so easily accessible as the Indian-House Brook and Robertson's Brook, and after mature consideration, I selected the latter as the best site for the erection of a fish-breeding establishment on the Restigouche River, for the following reasons, viz:—

First. Its closer proximity to a neighborhood where the necessary materials and supplies could be procured wherewith to erect the buildings and other appliances.

Second. Being near at hand to the residence of John Mowat, Esq., the very intelligent and energetic Fishery Officer for that district, to whom not only the work of construction but also the after management and care of the establishment could be safely entrusted.

Third. The situation being such, that at all times of the year speedy instructions could be sent to, and general information received from, the manager, and also where a greater amount of general knowledge could be diffused in relation to a new industry of this nature.

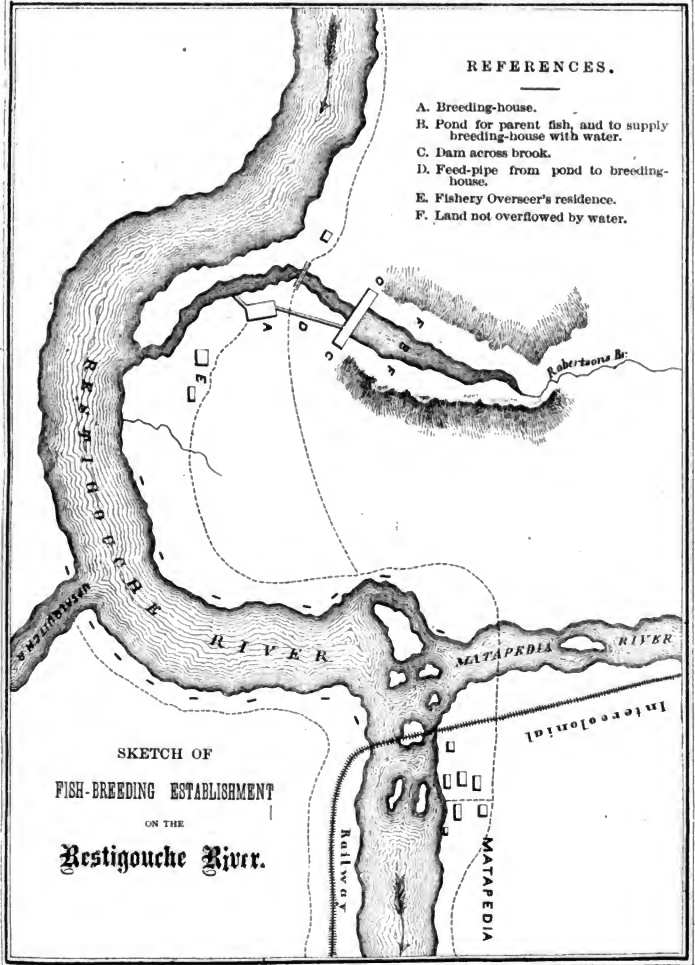
Robertson's Brook enters the Restigouche River on its left bank, about nine miles above the mouth of the Matapedia, and about four miles above that of the Upsalquitch. It is a pretty, limpid, pure stream, taking its rise in the mountain or high land a short distance in the interior, and reputed to be never-failing in its supply of water. This I should judge to be the case, from the fact, that in the latter part of July, when I inspected it, a full and ample supply was then flowing in it. Situated between high banks on either side, it is capable of being easily dammed for the formation of ponds or reservoirs, in which either the parent fish or young fry could be safely kept. It is accessible and quite easy of approach at all seasons of the year.

From Matapedia, a projected station of the Intercolonial Railway, and where a post office and telegraph-office are in operation, Robertson's Brook can be reached by nine miles travel by water, or six miles across country, over a passably good road. At the distance of a few miles up river from this brook, the country is almost wholly uninhabited, and may be called a wilderness, and quite inaccessible at certain periods of the year. Any other point above the one selected would be very remote indeed, and would prevent the possibility, without an increased annual expenditure, of securing the services of any person who could give the necessary time, attention and care essential to successfully working an artificial salmon-breeding establishment.

Information was also obtained, that upon this portion of the river, no difficulty would be experienced in procuring the necessary supply of parent salmon, from which to obtain a stock of ova to lay down in the hatching troughs, and that the work of distributing the young salmon, after being hatched out in this establishment, would be easily accomplished.

REFERENCES.

- A. Breeding-house.
- B. Pond for parent fish, and to supply breeding-house with water.
- C. Dam across brook.
- D. Feed-pipe from pond to breeding-house.
- E. Fishery Overseer's residence.
- F. Land not overflowed by water.



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carriage by water to almost any point, either on the main river, the Upsalquitch, Medgewick, or any other tributary, could be safely, expeditiously and cheaply performed. The site therefore having been selected, with a view to the best interests of the river, Messrs. and your Department, I instructed Mr. Mowat to purchase the exclusive right of the brook, together with a sufficient quantity of land, upon which to erect the necessary buildings and other appliances, for the successful working out of a fish-breeding establishment on the Restigouche River. As it was desirable to make all the necessary preparations, and effect the utmost possible progress during the ensuing autumn, I gave to Mr. Mowat, in detail, my views of the plan of the building, and the spot for its location, and the point where it was best to erect the dam, giving him at the same time, a full and clear explanation, as to the description of building required, and a statement of the quantity of lumber and other materials requisite for its construction, keeping in view at the same time the importance of the whole structure being built in a durable and substantial manner, so that the work of fish-breeding might be carried on therein with perfect safety and economy. As pine lumber in that section of the country is both difficult and expensive to procure, but finding that other durable material could be furnished at reasonable rates, I directed to construct the body of the building of heavy cedar timbers, flattened upon three sides and laid upon each other, so that a smooth face would be presented inside. The foundation for the building would go down to the solid rock, upon which this strong and durable cedar building would stand. Then by roofing it over with shingles, and placing earth back again closely against the outer walls, the building would become quite sheltered from the inclemency of the weather. With this protection outside, and with the use of an ordinary wood or coal stove inside, no difficulty would be experienced from the building injuring or otherwise affecting the works within, during the long and severe winter months in that region of country.

The estimated cost of the construction of a building as above described—Sixty feet long by twenty-four feet wide, with all of the internal and external fixtures and appliances requisite to commence operations, together with the building of the dam upon the brook, and the cost of purchasing the site, will be as follows:

4,720 lineal feet of cedar timber, flattened upon three sides, for the walls, beams, sills and rafters, &c., at 3 cents per foot	\$141 60
Cost of labor, putting up body of house	50 00
Cost of pine lumber and shingles required for roofing, flooring, sheathing, &c.	230 00
Carpenter's work, for covering in, flooring and finishing, with glass, nails and findings	100 00
Making dam and excavating foundation for building, all complete	160 00
Cost of land and privilege	50 00
Stove pipes and other contingencies	68 40
Total cost, exclusive of inside fixtures, &c.	800 00
Add, cost of 60 breeding boxes	\$120 00
Erecting stagings and putting them up	20 00
Large wooden tank or reservoir	20 00
300 hatching grills	120 00
Add for sundry items	20 00
	300 00
	\$1,100 00

The above estimate of \$1,100.00 will fully cover the cost of construction, and place the whole establishment in readiness for the reception of ova, and from the durability of the material, and substantial mode of erection, this building, with a small outlay for

repairs, should last for a period of twenty years. Its superficial capacity, with one floor, would accommodate the laying down of one million of salmon eggs, or perhaps even more.

From the energetic action of Mr. Mowat, a considerable amount of the work of construction has been already performed. The site has been purchased, the dam built, the foundation excavated, and the main body of the building put up, with an outlay thus far, of some four hundred and seven dollars, leaving only the roofing, shingling and flooring to be completed in the early spring, when the building will be in readiness for receiving the internal fixtures and other apparatus, preparatory to the laying down of eggs next autumn. For the more easy comprehension of the nature of the site, and the general description of the locality referred to in this report, a couple of hurriedly drawn pen and ink sketches are hereto attached. (See page 113.)

UP THE MATAPEDIA

After fully completing the above arrangements with Mr. Mowat, for operations on the Restigouche, I proceeded down river, passing the Upsalquitch on my way to the village of Matapedia. Upon arriving at this place, I drove up the Matapedia River with a view to inspect it in a like manner as the Restigouche, and for similar purposes; which duty, however, I did not accomplish. An important point on the Matapedia is called the Forks, so styled from the junction of the Casupsault with the main branch. This latter stream is said to be the principal spawning ground of the salmon. Being unable to procure canoes at the Forks, and also being closely pressed for time, I could not satisfactorily examine either of the rivers referred to, for the purposes desired in your letter of instructions. From information received, however, I was led to believe that several small brooks entered each of them some distance higher up, and that they were of such a nature as to be available for fish-breeding purposes. From inability to proceed at this time any further up, I was reluctantly compelled to abandon the inspection of the Matapedia and Casupsault until another season.

The Matapedia with its tributaries forms a magnificent body of water, and from all the information I could gather, flows principally over a rocky and gravelly bed and is very rapid in its current, presenting no serious obstacles to the passage of salmon into the interior of the country. It is said to take its rise in the Chik-Chaks mountains, some sixty miles in the interior, and to flow thence, north easterly, through an uninhabitable region of territory, to Lake Matapedia; it then passes through it, when it is increased in volume by the confluence of the Humqui River, a considerable stream coming from the south-west. Thus enlarged in body, the Matapedia runs in a south-easterly direction, until again increased at the Forks by the waters of the Casupsault, which comes from the north-east, whence it flows on very rapidly till it reaches the Restigouche. The line of the Intercolonial Railroad follows the windings of the Matapedia River from its mouth, crossing it several times, till it reaches the lake of the same name; as this road will now be speedily completed for travel, the river will be brought into great notoriety as a salmon river, and as its natural capacity for production is reported to be of considerable magnitude, and the salmon of more than average size, it will likely be more frequented for fishing purposes than heretofore, and therefore will require greater care and attention for its preservation, particularly during the close or spawning season, otherwise it will soon become, as many of the salmon rivers of the past, quite depopulated of fish.

The introduction of the system of artificial fish culture there, as contemplated by your Department, would be found to be a most valuable adjunct to the natural method for increasing and maintaining the quantities of salmon, which this very fine river is capable of supplying. It will therefore be my particular duty, during the next season, to fully carry out your instructions, and select one or more properly adapted sites for the work of artificial fish-breeding in the waters of the Matapedia.

The Restigouche River, above its tidal fisheries, and its several branches, are now becoming somewhat remunerative to the country, by reason of the annual rentals obtained from the fly-fishing lessees, who, in addition to their annual payments, have subscribed a considerable amount of money jointly with the Department, for the erection of an

establishment for carrying out the enterprise of artificial salmon-breeding upon an extended scale. This establishment will have the effect of very materially increasing the numbers of fish, but the fly fishermen, who ought to be most benefited by this operation, will, comparatively speaking, derive but small additional sport or profit; whilst the persons engaged in netting the coast and tidal fisheries appertaining to the Restigouche, who it may be said, pay little or nothing for the right of fishing, and render no aid or assistance whatever to protect or increase the supply, will get more than the lion's share; for, taking the catch of fish during the past season belonging to this river as an example, it will be found that the number of salmon killed by fly fishing up stream will compare as only one to every five hundred taken by means of nets at its mouth and lower tidal waters.

The object in producing, increasing and maintaining the supplies of salmon in the Restigouche, and the fisheries belonging to it, should most assuredly be looked at in a commercial point of view; and to extend and enlarge the fisheries of the Bay Chaleur, and also to maintain them as a lasting source, from which industry and labor would be rewarded, individual wealth secured, and general commercial benefit flow, should be the aim and desire both of the people and the Government; and therefore the natural sources from which all these benefits are derived ought surely to be thoroughly protected, and vigorously upheld. The rivers emptying into the Bay Chaleur then, are those sources, and as such should receive that protection. A few words in relation to the nature and habits of salmon will show this.

Salmon begin to leave their feeding grounds in the sea and along the coast, during the late spring and early summer months, and annually migrate to their native rivers, in order to lay their eggs from which their young are produced. After spawning, they again return to their feeding places; it is therefore conclusive that the fresh water streams are the nurseries in which the young of the salmon are first reared; the ova are not laid, neither can the young fry be produced in salt water, but at any point above tideway, where the current becomes rapid, and the bed of the stream is naturally adapted, the spawning grounds or nurseries of the salmon commence, for, sooner or later in the season, they will begin to lay their eggs from this point all along and up to the remotest limits they can possibly reach, either in the main river or in its branches. Generally speaking, however, by far the greater numbers of the breeding salmon ascend the streams as far up as they possibly can, for the purposes of spawning. A portion of the eggs thus deposited will produce young fry, and in due time they will pass down the river to the sea to get their growth. When matured they will again return to their native river, in like manner and for the same purposes as their parents did before them.

From this it must appear obvious to every reasonable person that the Restigouche, with its branches, is one of the principal sources from which the fisheries in the Bay Chaleur are supplied with their annual catch of salmon. It must appear equally clear that the greater the number of parent fish that are allowed to pass up the river yearly, and to lay their eggs unmolested, the greater will be the annual catch of mature salmon afterwards in the tidal waters below.

The method of taking salmon by means of nets below the estuaries of rivers and in the tidal waters, is no doubt the correct one but should be nevertheless properly restricted, both as to time and manner, by wholesome and judicious laws and regulations; but the use of nets of any kind, or in any manner whatsoever, above the estuaries, or in pools, reaches, or narrow parts, or anywhere within the spawning grounds or nurseries of rivers, should not be permitted or allowed under any circumstances, as it is unsound in principle, and impolitic; for if allowed or continued, it must eventually lead to the extermination of the salmon in all of the rivers which they now frequent.

But whilst the system of net fishing should be wholly abolished within the limits mentioned above, it does not follow that another method of salmon fishing, practiced upon the Restigouche and its branches, from which pleasure and profit may be derived to those engaged in it, and from which a revenue is also secured to the country, should not be permitted. I allude to fly surface-fishing, because from the nature of its application, the numbers of fish taken are very few, and the system being both precarious and unreliable

it will be found to be quite impossible to seriously affect or otherwise injure the productiveness of a river; on the contrary, this method has a tendency to guard and protect the streams from illegal fishing and poaching. Either the fly-fishing lessees, their friends, or the men engaged by them are almost constantly up and down these rivers during the proper season, thereby keeping a constant watch over them; and it is also found, that during the close season, extra keepers and watchmen are employed by the lessees, for preserving the spawning fish, and otherwise protecting their interests. Thus it will be found that this protective system will counterbalance more than a thousand fold the very slight destruction caused by those engaged in fly-fishing.

Independently of the large numbers of salmon that are taken by means of weirs and nets set at well known passes in the river, the netter will at times, by a few casts of the net, sweep clean the pool that may contain hundreds of fish, which have made it their temporary resting place during their upward journey to their spawning grounds; whilst, after incessant application in the same pool, the most expert fly fisherman may, perchance, during the live-long day, kill one, or at most a half dozen of this number. By far then, the most common and destructive method adopted for capturing salmon in large numbers in rivers is netting, and it is practiced by fishermen as the general rule, whilst killing them with the fly is really the exception.

The salmon fisheries of the Restigouche and other rivers entering into the Bay Chaleur, together with its other fisheries, are well worthy of the highest consideration. It would be advisable, therefore, that stringent laws and regulations should be passed, having for their object the total abolition of net fishing above the tideway of those rivers; also a thorough protection of the spawning grounds or nurseries of the salmon during the close season, by which a free scope would be given for the natural production of their species. Subsidize this by establishing in well selected places the artificial method of propagation, from which a much greater per centage would be reared than by the natural way, and the numbers of young fry thus produced would be immense. In time they would pass down in great numbers, as smolts to the sea, where, from the inexhaustible supplies of food to be had, they would soon become matured, and then return again to their native streams for the purposes of reproduction. Then regulate the tidal fisheries, so that an undue proportion of these parent fish should not be taken whilst migrating, and continue this system, and ere long, and for all time to come, the salmon fisheries of the Bay Chaleur will have secured to the inhabitants there the great desideratum so much sought after, namely, increased employment for industry and labour, greater means for acquiring individual and public wealth, and those great and lasting benefits, which inevitably flow from increased and extended commercial transactions.

I have the honor to be, Sir,

Your most obedient servant,

S. WILMOT.

NEWCASTLE, ONT., December, 1872.

APPENDIX K.

REPORT ON A SECOND DEEP-SEA DREDGING EXPEDITION TO THE GULF OF ST. LAWRENCE, WITH SOME REMARKS ON THE MARINE FISHERIES OF THE PROVINCE OF QUEBEC.

By J. F. Whiteaves, F.G.S., &c.

To the Honorable PETER MITCHELL,
Minister of Marine and Fisheries for the
Dominion of Canada, &c., &c.,

SIR,—I have the honor to submit the following report of a second deep-sea dredging expedition to the Gulf of St. Lawrence, prosecuted by me during the summer of 1872, under the auspices of the Department, and as the representative of the Natural History Society of Montreal.

Your obedient servant,

J. F. WHITEAVES.

INTRODUCTORY.

As soon as the navigation of the St. Lawrence was fairly open in 1872, preparations were set on foot for the summer's operations. A Casella's thermometer and improved deep-sea water bottles were ordered from England; but, unfortunately, I was not able to procure these. Had they been available, it was hoped that much more accurate thermometrical observations could have been recorded, and it might have been possible to ascertain if the chemical characters of the water varied much at different depths. My next step was to try and induce some skilled zoologist or botanist to accompany me and take a share of the work, or, failing this, a practical taxidermist. Every effort was tried, but no naturalist would volunteer to go. At this juncture, my friend, Mr. A. E. Bulger, of Montreal, kindly said that he would be willing to cruise with me, and do his best to work under my supervision. This proposal was gladly accepted; and it is only fair to Mr. Bulger to say that his services were of much value, and that his zeal and industry in the proper preservation of the specimens collected deserve high praise. The necessary preparations for the expedition having been made, it was arranged that we were to meet Captain Lachance at Gaspé Basin, on the 18th July. Previous to starting, after a careful study of the Admiralty charts, I had selected three or four distinct subjects for investigation, either or all of which, it was proposed to adopt, should circumstances admit.

The first of these was to try and ascertain how far up the River St. Lawrence the marine fauna and flora extend. Principal Dawson has collected an extensive and interesting series of arctic marine invertebrates at Murray Bay, and it was thought desirable to examine the centre of the river between that place and Quebec. Opportunities for doing this were not, however, afforded.

To make the second plan of operations proposed intelligible, it is necessary to offer a few explanatory remarks. From a point situated a little to the north of the Island of Cape Breton, a line of sixty fathoms soundings stretches irregularly, but on the whole in a north-westerly direction, to Percé or Gaspé Bay. Inside of this line of soundings, which includes the whole of the Magdalen group, the water is usually very shallow. The

Perk fishermen say that in many places on and near the Misson Banks, where they fish, the water is less than ten fathoms deep. Submarine elevations of the land, to a greater or less extent, appear to obtain in the area circumscribed by such a line as that of which I have spoken. These form a kind of irregular submerged plateau, of which the Magdalen group and Prince Edward Island form part, outside of which the water deepens rapidly, and in many places quite precipitously. This being the case, such a plateau, it is thought, would form a kind of barrier to the cold arctic currents which sweep through the Strait of Belle Isle, and would tend to deflect them in a bold curve up the River St. Lawrence. It seems also not improbable that this line of sixty fathoms soundings may divide two well-marked assemblages of marine animals in Canada. Outside of it, especially in deep water, the fauna is of a decidedly Arctic and Scandinavian character. The specimens collected by me in 1871 and 1872 shew clearly that a much larger number of species are common to both sides of the Atlantic than American or European naturalists formerly supposed. On the other hand, the seas of New Brunswick, of Prince Edward and Cape Breton Islands contain a more southerly assemblage, a large proportion of the members of which are characteristic New England species. This Acadian fauna, as it has been called, extends at any rate to the south side of the Bay of Chaleurs, and perhaps as far north as Gaspé Bay. In this latter place, although the fauna on the whole is decidedly arctic, one or two stragglers from more southern shores are rarely met with. My object, therefore, was to try and ascertain, by actual investigation on the spot, if the line of sixty fathoms soundings, as given on the charts, forms the line of demarcation in Canada between the arctic and the Acadian faunæ. It was thought that by dredging alternately on both sides of this line, and carefully comparing the specimens collected, much light might be thrown on this particular point.

The third object I proposed to myself was to investigate the animal life of the deepest parts of the Gulf generally. It is not known with any degree of certainty where the most important of the Canadian edible fishes (such as the cod, halibut, mackerel, and herring), go to in winter. Whether they merely retreat to the deepest parts of the Gulf during the cold months, or migrate further south, remains to be ascertained. It was thought that a tolerably careful examination of the animal life of the greatest depths would at least help to shew if plenty of food for such fishes exists on or in the deep sea mud.

Towing-nets were also provided, arranged so as to catch such minute animals as float on or a little below the level of the water. Valuable information as to the food of the herring and mackerel has recently been placed on record by a Danish naturalist, Mr. Axel Boeck. The following abstract of this observer's general conclusions is partly condensed and partly copied from an article in Professor S. F. Baird's "Annual Record of Science and Industry," for 1871. According to Mr. Boeck, the food of herrings consists almost entirely of minute invertebrate animals, and this is divided by the northern fishermen into three classes—the "red," the "yellow," and the "black." These names are derived from the colour of the food when living, or else from its appearance in the stomach of the fish. The "red meat" is the most frequent: it consists mainly of minute copepod crustaceans. These occur on the shores of Norway and other parts of the coast of Northern Europe, at certain periods of summer in such abundance that the sea is coloured by them. School upon school of herrings and mackerel feed upon these; nor are such pigmy crustaceans disdained even by whales. Upon this food both herring and mackerel thrive and grow fat. If herrings are taken with their stomachs full of "red meat" in an undigested state, it is said that the animal matter in the stomach begins to spoil before it can be reached by the salt, and decomposition soon sets in. "For this reason, it is required by law to keep herrings three days in the nets in water, that all the contents of the stomach may be completely digested, while the fish is prevented from taking in a fresh supply. Sometimes, however, the winds drift the herring food into the nets, and urnish to the herrings an opportunity which they eagerly embrace, rendering them again able to the difficulty just mentioned." "Yellow meat," which is not so

abundant as the "red," is said to be made up of transparent copepods, together with the swimming larvæ of tape-worms and other annelids. Herring and mackerel feed largely upon these larval worms, and the yellow tint is thought to be derived mainly from the hairs upon the skin of these embryos. "This kind of food is considered to interfere less with the proper curing of the herring, as it is much more quickly digested." "Black meat" is found to be mainly large numbers of the embryonic state of a minute spiral shell, of the genus *Rissoa*, which lives upon sea weed. In their early stage these molluscs have two wing-like expansions, covered with hairs, attached to the body, which they lose when they reach maturity. The substance of the soft parts of the "black meat" is covered with a hard shell, which prevents the digestive fluid of the fish from reaching it, so that only the wing-like processes are consumed, and that part of the body which is inside the shell rapidly decomposes. Herrings that have fed on "black meat" are said to be totally unfit for salting, even when kept in the nets for a much longer time than three days. "The salted fish has an extremely disagreeable smell, even after the stomach, with its contents, have been removed." During the early spring and in the open sea, herring do not seem to feed very largely on animal, or indeed on any other kind of food. It is in the summer and autumn, after the spawning season is over, that they devour these larval or simple forms of animal life in such quantities. From the above statements, it will be seen that it is possible to get much information of practical value, with regard to the food of the surface-feeding fishes, by the use of the towing-net in the first instance, combined with subsequent and careful microscopic study of the specimens thus collected. I was also anxious to try and find out if any Foraminifera or Polycystina (and, if so, which species) float on the surface of the water in the Gulf. A keen scrutiny was also made to try and detect any Radiolarians or Pteropods.

The weather, during the summer of 1872, was exceptionally wet and stormy at the places visited; and not only so, but the facilities afforded on board the *Stella Maria* for the operations contemplated were not nearly so many as last year. The nature of the business on which the schooner was employed was such as to make the prosecution of any definite plan of operations impracticable. Captain Iachance and his officers did every thing in their power to help us; but the cruises were too short, and the intervals spent ashore too frequent, to enable us to do as much as we could have wished. We were absent from Montreal fifty days, from 15th July to 3rd September, 1872. In the first month we had four short cruises, two of which lasted four days; the third, one; and the last, three. No less than fifteen days were spent ashore in the village of Gaspé Basin. Our final cruise for the summer extended from Gaspé Basin to the Magdalen Islands and back. We were absent eleven days; but of these we were storm-bound at Cape Rosier for two days, and spent one at Percé. Last year (1871) we got twenty-three successful hauls of the dredge, of which thirteen were in deep water. This summer (1872) the number of successful hauls was only ten, of which five were in deep water. It is only fair to add, however, that, in addition to the ten successful hauls, we had six unsuccessful casts still, notwithstanding the difficulties and disadvantages we laboured under, a large number of interesting and novel specimens were collected, and many new facts were ascertained with regard to the distribution of the lower animals in the Gulf. If the opportunities we had are fairly estimated, the success of the expedition is quite remarkable.

It is proposed to arrange the following portion of this report under three headings, much as on a previous occasion. In the first of these, an abstract from a diary kept on board the *Stella Maria* will be given. This will be followed by a summary of the zoological results of the expedition; and the report will conclude with some observations on the sea fisheries of the Dominion and on other matters of a practical character.

PART I.

Abstract of a diary, kept for the most part on board the "Stella Maris."

Leaving Montreal on the evening of the 13th July, we arrived at Gaspé Basin on Thursday afternoon, 18th July. Soon after landing we learned that the *Stella Maris* had been ordered to the Island of St. Paul, and was not expected back for some days. We awaited her arrival for about a week, and then got on board on the evening of 26th July, so as to be ready to sail at daybreak the next morning.

Saturday, 27th July, 1872.—Set sail from Gaspé Bay at 6 a.m., a drizzling rain falling during the greater part of the day. Rounded Cape Gaspé about 3 p.m.

Previous to starting, we were informed that the schooner had to be back at Gaspé Basin on Wednesday night, so that we had less than four working days before us on this cruise. Late in the afternoon, the first cast was made, the dredge being thrown over at 5.45 p.m., and hauled up at 7.45. Dredge A. 1, 75 to 80 fathoms,—stones; Cape Rosier, bearing N.-W. by N., nine miles distant; Cape Gaspé, W. $\frac{1}{2}$ N., six and a-half miles distant. As it was nearly dark when the contents of the dredge were emptied on the deck, it was not possible to examine the specimens with any care on this day. As soon as the dredge was hauled up, the vessel was put about for Gaspé Bay.

Sunday, 28th July.—Anchored outside the Peninsula, in Gaspé Bay, the whole day; went ashore in the afternoon; weather fine.

Monday, 29th July.—Set sail at 3 a.m.; rounded Cape Gaspé at 9 a.m. Weather fine during the day, but there was very little wind. The morning was spent in the examination and preservation of the specimens collected on Saturday. Among these were a number of sponges, mostly of large size, and of many species, some of which I had not seen before. Among the echinoderms were *Asterias Groenlandicus*, and large *Ophioglypha Sarsii*; a sipunculus, new to me, and a beautiful amphipod, which Mr. Smith says is *Acanthozoe cuspidata*, with many other things, in all about thirty species, were also taken in our first cast. Used a towing-net in the afternoon; caught a number of minute crustaceans, and a small sea-slug (*Doris*) attached to a piece of Fucus. In the afternoon we tried a second cast. The dredge was thrown over at 3.30 p.m., and hauled upon deck at 5.30. Dredge A. No. 2, 110 fathoms—coarse sand and stones; Cape Rosier, bearing W. by N., seven miles distant; Cape Gaspé S.-W. by S. Two small species of sponge; ten examples of a heart urchin (*Schizaster fragilis*); four rare species of crustacea (*Munnopsis typica*, *Nymphon giganteum*, *Epimeria coniger*, and *Anthura brachiata*); also many other scarce forms, including thirteen species of shells and six of echinoderms—altogether, nearly forty species in this haul.

Tuesday, 30th July.—Before breakfast, at 5.30 a.m., the dredge had been thrown over in about 100 fathoms of water, off Griffin's Cove. When hauled in, at about 8 a.m., the bag was found to be quite empty. A couple of deep-sea *Astartes* (a bivalve shell) and several brittle stars (*Ophiacantha spinulosa*) were found adhering to the line. Dense fog and drizzling rain all the forenoon. A towing-net had been lashed astern very early in the morning (about 3 a.m.); as an experiment. Several specimens of the three-spined stickleback (*Gasterosteus aculeatus*? var.) and a quantity of small crustaceans were taken in it. In the afternoon the fog cleared off, and it commenced to rain heavily. Another cast was made at 12.30 p.m., and the dredge was hauled on deck almost empty, at 4.40. Dredge A. 4, between Griffin's Cove and Cape Rosier, 150 fathoms—mud. One sea anemone, two or three sea-pens, a star fish (*Ctenodiscus*), two worms, and a couple of small bivalves (*Astartes*), were all that the bag of the dredge contained. About 5 o'clock, p.m. a heavy gale sprang up: we ran to Mal Bay for shelter, and anchored there at 8 p.m.

Wednesday, 31st July.—Sailed from Mal Bay at 6 a.m., with a stiff N.-W. breeze blowing. Anchored just outside Gaspé Basin at 10.30 a.m.; ashore at 12.15 a.m.

Thursday, August 1st.—Ashore all-day in Gaspé Basin.

Friday, 2nd August.—Set sail for Percé, at 2.45 p.m., with very little wind. Commander Lachance and his first and second officer having sailed for Quebec the

previous day, the schooner was left in charge of the third officer. Used a towing-net in Gaspé Bay, soon after we sailed. At the entrance of Gaspé Bay, we caught several three-spined sticklebacks, and a number of land insects of all orders. Many of the smaller Coleoptera and Orthoptera were living. They seem to be able to exist for a long time, floating on the surface. A dead calm in the evening.

Saturday, 3rd August.—Anchored off Percé village, at 7.30 a.m. Went ashore for an hour or two in the morning, and set sail again about 11.15 a.m. Sailing along by the N.-E. side of Bonaventure Island in the afternoon, we observed large numbers of gannets and gulls perched upon inaccessible ledges of rock. In thick weather, the cries of these birds upon the Split Rock at Percé and on Bonaventure Island often (it is said) give timely warning to the mariner of the proximity of land. We tried a cast (Dredge A. 5) in fifty-six fathoms—sand; about one mile and three-quarters to the S.-E. of Bonaventure Island. Although the dredge was allowed to remain on the bottom for two hours it came up empty; the wind was so slight, that the scraper must have anchored the schooner. A towing-net was used in the afternoon, with the usual results, viz., a few small fishes and some minute crustaceans. After the dredge was hauled up, there was a dead calm, and the schooner had to be towed back to Percé by the crews of her two boats—a process which took three hours to accomplish. Anchored off Percé at 8 p.m.

Sunday, 4th August.—Ashore at Percé all day, where we were cordially and hospitably received by Judge Winter and Sheriff Vibert.

Monday, 5th August.—Sailed from Percé at 6.15 a.m., and passed Bonaventure Island about 9.30 a.m. Morning overcast and showery. The dredge was thrown over at 9.45 a.m., and was emptied on deck at 11.50 a.m. Dredge A. 6, sixty fathoms—tough sandy mud; five miles and a-quarter to the E.S.-E. of Bonaventure Island.

On plunging a common but carefully corrected thermometer into this mud, and shading the whole (at once) with a tarpaulin, the mercury sank to 32° Fahr. The experiment was repeated, but each time with the same results. I heard afterwards that the Strait of Belle Isle had been unusually full of ice during the summer; but this circumstance certainly did not materially affect the temperature in other places examined. About twenty species, exclusive of the worms, came up in this haul. Of these, one of the crustaceans (*Byblis Gaimardii*) and three of the shells were rare forms. In the afternoon, two very successful hauls were made, but not in very deep water. Dredge A. 7, sixty fathoms—coarse sand and stones; about eleven miles from Percé. Temperature of the sand—about 37° Fahr. About twenty-seven species this time, seventeen of which were shells. The most noticeable crustacean was an arctic shrimp (*Sabineca septemcarinata*), and among the hydroids a fine specimen of *Halecium halecinum* was conspicuous. Later in the afternoon we got Dredge A. 8, in fifty-six fathoms—stones and coarse sand; eight miles to the S.-E. of Bonaventure Island. The bag came up full of interesting novelties. Among them were *Boltenias*, eleven inches long, many sponges, annelids, hydrozoa, polychaeta, and molluscs. Besides these there were eight kinds of crustacea, the most interesting of which were *Neolocrangon* lar and *Tritopsis aculeata*, and among the echinoderms *Asterias Groenlandicus* and *Pteraster militaris* occurred. The afternoon and evening, as well as most of the following day, were spent in the examination and preservation of the specimens collected. To-day we learned, for the first time during this cruise, that orders had been left behind that the schooner was to return to Gaspé Basin on Tuesday night.

Tuesday, 6th August.—No dredging done to-day; most of the time was occupied in the preparation of the specimens got on Monday. In the afternoon we sailed for Gaspé Basin; arrived there at 8 p.m., and went ashore.

Wednesday to Friday, August 7th to 9th inclusive.—Ashore in Gaspé Basin. Commander Lachance did not return on Thursday, but his first and second officers did.

Saturday, 10th August.—Sailed from Gaspé Basin, at 9 a.m., with a fair breeze. Rounded Cape Gaspé at 11.45—the first officer commanding during this cruise. In the afternoon, nothing else being feasible, we tried a cast in comparatively shallow water

Dredge A. 9, thirty fathoms—stones and coarse sand; six miles E.N.-E. of Cape Gaspé. A smooth *Sipunculus*, new to me, and an interesting zoophyte, with a number of common species, were brought up this time. From about 3 p.m. till 6, it rained and blew hard, so we returned to Gaspé Bay for shelter. At 6 p.m. the squall ceased, and was succeeded by a dead calm. We lay off Grand Grève all night. Noticed that three kinds of brittle stars collected during the day were phosphorescent in the dark.

Sunday, 11th August.—Anchored outside Gaspé Basin all day. In the morning saw many transparent medusæ floating in the water; the fishermen round the coast call these mackerel bait. Being much dissatisfied at the waste of time so far, I left a telegram ashore for Newcastle, asking for instructions. Unfortunately, the reply did not reach me in time to act upon it.

Monday, 12th August.—Left Gaspé Basin for the fourth time, early in the morning. As we knew when we started that the schooner must be back on Wednesday, our hopes of success were not high. Our object was to get to deep water as quickly as possible, and then to have as many casts as the time would permit. During the morning it was sunny, with hardly a breath of wind. A towing-net was used, but with no very remarkable results. A slight breeze rising in the afternoon, we got as far as Little Fox River by night. Did not attempt to dredge to-day: our object was to get well out into the centre of the river.

Tuesday, 13th August.—On rising, we found that the dredge had been thrown over at a little before 6 a.m. As there was very little wind, it was decided to allow it to remain on the bottom for some time before it was hauled in. Accordingly, the bag was emptied on deck about 10 o'clock, a.m. Dredge A. 10, 160 to 170 fathoms—mud and stones; about fifteen miles from Cape Rosier; temperature of the mud—about 35° Fahr. Two or three rare sponges, a few sea-pens (five or six), two deep sea star fishes, and six rare species of shells. During the night we had made for the south-west point of Anticosti, and had sighted the lighthouse at 3 a.m., and then put the vessel about. In the afternoon we had another cast in deep water, and made by far the most successful haul of the season. Dredge A. 11, 200 fathoms—mud; thirty miles N.-E. of Cape Rosier; down at 1.20 p.m., up at 3. It was found necessary to defer the examination of the last specimens collected till the next day. I had kept some sea-pens (*Pennatulæ*) alive in salt water till the evening, and on putting them into a perfectly dark place found that they emitted a pale bluish phosphorescent light, when touched. At night we were near Cape Rosier again; the lighthouse could be well made out.

Wednesday, 14th August.—Soon after breakfast we tried to get another deep-water haul before returning, but were disappointed in the results, as almost nothing was brought up. Dredge A. 12, 108 fathoms; off Cape Rosier. Two *Pennatulæ*, one star fish (*Otenodiscus*), a sea anemone, and three shells, one very rare, were all that the dredge brought up. The morning and part of the afternoon were spent in the examination, &c., of the objects collected on the preceding day. Among the specimens were a new simply pinnate sponge, with an internal axis of spicules; a true coral; several living *Virgulariæ* (a genus then new to America, but since found by Dr. Packard, in 150 fathoms, on St. George's Bank); *Dentalium occidentale* (alive); some very rare shells and other interesting things. At noon we rounded Ship Head, bound for Gaspé Basin, at which place we landed at 5 p.m. For so short a cruise, our success this time was much more encouraging.

Thursday and Friday, 15th and 16th August.—Spent on shore in the "Basin." Captain Lachance returned on Thursday, and at once resumed command of the vessel.

Saturday, 17th August.—Left Gaspé Basin at daybreak; weather fair, wind very light. Dr. Fortin, M.P., &c., and Mr. Tetu came with us part of the way. Rounded Cape Gaspé, at 2 p.m. In the evening we tried to dredge in the deep water off Cape Rosier, but were altogether unsuccessful. Dredge A. 13, 140 fathoms; off Cape Rosier; down at 5.30 p.m., up at 7; quite empty. Another cast was immediately made in the same place, but with an exactly similar result.

Sunday, 18th August.—Anchored off Cape Rosier all day. In the afternoon we went ashore, and were very kindly and hospitably treated by Mr. Trudeau, at the lighthouse. In the evening we attempted to get back to the ship, but the surf was so heavy that we gave it up, and, thanks to Mr. Trudeau, were able to stay ashore all night. A fine and hot day with a very heavy sea on.

Monday, 19th August.—Dense fog and heavy rain all day, the gun at the lighthouse firing at regular intervals. Stayed with Mr. Trudeau all day, and got back to the ship at 10 p.m. At 11 p.m., as it had cleared a little, we set sail for Percé, with a light breeze. During our absence, the steward of the *Stella Maria*, at my suggestion, had tried the effect of drawing a fishing line¹ with a bundle of hooks and a sinker attached to the end, repeatedly along the rocky bottom, near the ship's anchorage, in about seven fathoms of water. Although several hooks and lines were thus lost, quite a number of specimens were in this way obtained. Among these were several large purple sea cucumbers (*Pentacta frondosa*), nearly a foot long, a scarlet Holothurian (*Lophothuria Fabricii*), a ruddy sea peach (*Cynthia*), and a living green sponge, new to me. Besides these more striking specimens, the hooks brought up a quantity of small sea weeds, amongst which were multitudes of scarlet caprellæ (which have been called the monkeys of the crustacean world), parasitic sponges and zoophytes, about six kinds of shells, &c. &c.

Tuesday, 20th August.—Arrived at Percé at 3 a.m. Dr. Fortin and Mr. Tetu left us here. Instructions having been received to look after an American schooner (the *B. A. Baker*), on the Orphan Bank, we left Percé at noon, bound for the former place. On our way, we got a cast on a rough and heavy bottom, which cut the doubly-knotted bags and protecting cowhide of the dredge almost to pieces. Dredge A., 14.50 fathoms—stony and rocky bottom; Bonaventure Island bearing N.N.W., fifteen miles distant; Point St. Peter N.½W., twenty-two miles distant. Many interesting things in this haul; among them a couple of *Boltenias*, nearly two feet long, a dozen or more living *Pectens* (*Islandicus*)—more than twenty species in all, not counting the worms, zoophytes, or crustacea. It was nearly dark when the contents of the bag were emptied out, so that the looking after the specimens had to be deferred till next morning. Weather fair, with a fine breeze all day.

Wednesday, 21st August.—Alongside the *B. A. Baker*, on the Orphan Bank, at 6 a.m. Having transacted the business we had with her, in pursuance of orders received, we sailed for Percé, and arrived there at 11 a.m. Ashore in the afternoon and evening.

Thursday, 22nd August.—Left Percé at 9 a.m., bound for the Magdalen Islands. A dense fog prevailed in the morning which cleared away in the afternoon, and there was a heavy sea on, with a stiff S. W. gale all the day and night.

Friday, 23rd August.—At 2 a.m., sighted Amherst Island, four miles distant. Wind light, W.N.W.; rain and fog in the morning. At 11 a.m., Deadman's, Grindstone, and Amherst Islands visible; many terns in sight. About noon we tried a cast, but not with much success, as the yarn fastening the two arms of the dredge got cut by rocks, so that the bag came up nearly empty. Dredge A. 15, twenty fathoms—rocky bottom—between Grindstone and Amherst Islands. We looked eagerly to see if there were any southern forms among the things brought up, but the results were purely negative. All of the twenty species observed are particularly common forms, which range from Greenland to Cape Cod. At 4.30 p.m., we saw the lighthouse on Amherst Island. Entry Island was visible at 6 p.m. Anchored off La Demoiselle Hill, on Amherst Island, at 7.50.

Saturday, 24th August.—Anchored in Pleasant Bay, off Amherst Harbour, at 6.45 a.m. Went ashore after breakfast, and took a walk with Mr. J. J. Fox, who shewed us much polite attention. The part of the island where we were is low and sandy, and in some places marshy. Many characteristic swamp plants were noticed, such as *Sarracenia*, *Ledum*, *Kalmia*, *Eriophorum*, *Drosera*, *Spiranthes*, and (in the shade) *Monotropa uniflora*. The most interesting species (to me) was the "candleberry myrtle" (*Myrica cerifera*), the berries of which were formerly boiled down by the inhabitants to make candles, as I

was told by Mr. Fox. The trees were mostly stunted spruce, hemlock, Canada balsam, alder, and low junipers. On the west point of Amherst Harbour are sub-aerial sand dunes, which have choked up and killed the few stunted trees which once grew there. We collected what looked like a promising gathering of diatoms from a lagoon, the water of which was brackish to the taste, but in which fresh-water snails (*Limnaea elodes*) were living. Unfortunately, the tide was high, yet we managed to collect six species of shells on the beach. These are *Pecten tenuicostatus*, *Callista conveza*, *Macra solidissima*, *Machæra costata*, *Zirphæu crispata*, and *Lunatia heros*. Of these, *Callista conveza* is a decidedly southern form, and so, in my judgment, is *Macra solidissima*, although Dr. Packard states that he found this latter rarely in or near the Strait of Belle Isle. We noticed a little magnetic iron in the sand on the shore, and Mr. Fox told us that gypsum and the black oxide of manganese are also found on the island. We were also informed by the same gentleman that ship-worms are often very prevalent in Amherst Harbour. When we had finished our stroll, we went to Mr. Fox's house, and on the way we met Judge Winter, also Captain Brown, commander of the *Peter Mitchell*, who invited us to cruise with him. This last polite offer we were compelled to decline, as it was necessary that we should return to Montreal early in September. After examining the blasting operations for the removal of obstructions to the entrance of the harbour, we endeavoured to do a little shallow-water dredging in one of the ship's boats, but with very little success. We got three hauls in about seven fathoms water. The first brought up a lot of sea-weed only; the second a small crab (*Cancer irroratus*), and four common species of shells (*Tellina tenera*, *Nassa trivittata*, *Lacuna vineta*, and *Margarita helicina*); and the third and last, nothing at all. Ashore again in the evening.

Sunday, 25th August.—Left Pleasant Bay at 6.45 a.m., with a fresh northerly breeze blowing and a heavy sea on. Anchored between Grindstone and Allright Islands at 10.30 a.m. Spent a few hours in the evening on Grindstone Island.

Monday, 26th August.—Set sail at 4 a.m. The whole day was hot, with little or no wind. By seven in the evening we had made only twenty miles. Cape Breton was visible in the distance about 4 p.m. The greater part of the afternoon was employed in using the towing-net on the surface, with more success than usual. Jelly-fishes, of many species and of all sizes, were taken in abundance. Floating sea-weed also gave quite a rich harvest, for, besides the polyzoa and hydrozoa parasitic on them, we got many adult Amphipods and shells, as well as crabs in an early stage of development, and three kinds of fishes. Besides the common stickleback, we collected numerous specimens of the lump-sucker (*Cyclopterus lumpus*), about half an inch long, adhering to the flat fronds of *Fucus* by the sucking disk formed by a union of the ventral fins, and a few small Blennies. We observed that large fishes (comparatively) follow these masses of drifting sea-weed, amongst which they find plenty of food. In the evening, we tried experiments on some of the living medusæ caught during the day, and found them to emit a palish phosphorescence in the dark when touched. The light on the new lighthouse at the Bird Rock was plainly visible at 9 p.m.

Tuesday, 27th August.—At 9 a.m., the dredge was thrown over in a place which I had long wished to explore carefully. Circumstances, however, were again unfavourable. The sea was so high and the breeze so fresh, that the dredge had to be hauled up before it had been down two hours. Had the sea been quite smooth and the wind light I should have preferred to let it scrape for at least four. Dredge A. No. 16, and last, 313 fathoms—black mud, with angular and rounded stones; between the east end of Anticosti and the Bird Rocks. Rather more than a bucketful of mud and several large stones came up in this haul. The specimens visible to the naked eye were a few *Triloculina*, nearly a quarter of an inch wide, two or three worms, one shrimp, and an Amphipod: one brittle star (*Amphiura*), a small example of the same coral as the one previously collected, and nine species of shells. These last are just the same as had been collected before in from 100 to 200 fathoms. A portion of this mud has been examined microscopically, with the following results:—Concave discs of a large *Coscinodiscus* are frequent; foraminifera very abundant and interesting; polycystina scarce, and none new

to me; a few six-rayed sponge spicules, indicating the existence of the Hexactinellidae in our waters; and two or three shells of a pteropod, *Heterofusus baleu*. From such a hurried attempt at an examination of the deepest spot in the Gulf, with such unpropitious weather, not much was to be expected; nor is to be wondered at that the results were so comparatively barren. To get a fair idea of the animal life existing at this depth, it would be necessary to stay on the ground for at least a week, supposing the weather to be favourable all the time. In the afternoon the breeze increased, and the sea was very heavy. After the dredge was hauled in, we at once made for Gaspé Basin, and at eight o'clock in the evening the day's run was fifty-six miles. About 8.30 p.m. it began to rain, and rained heavily all night.

Wednesday, 28th August.—Still making for Gaspé Basin. The wind had changed from S.-W. to N.-E. During the greater part of the day there was a stiff breeze blowing with a heavy sea on; but towards sunset the weather changed. Inside Cape Gaspé about 7 p. m. but as the wind was dead ahead after we had rounded Point Peter, little progress was made for some hours.

Thursday, 29th August.—Ashore in Gaspé Basin all day, waiting for the up steamship. In the afternoon a telegram was received (and next morning a letter) from Captain Brown, R.N., commander of the Government schooner, *Peter Mitchell*, pressing us to cruise with him for another fortnight. It was necessary, however, that we should both be back in Montreal early in September, if possible on the 1st. Added to this, all the bags of the dredges had been cut to pieces, and our stock of alcohol and bottles was exhausted. As we could not make up these deficiencies in Gaspé, or get fresh supplies, further cruising would have been useless, even if we could have spared the time. We were accordingly, with great reluctance, compelled to decline Captain Browne's polite and kindly invitation.

Friday, 30th August.—The steamship *Miramichi* being late, we did not leave Gaspé Basin until an early hour in the morning. Arrived in Quebec on Sunday forenoon, so that we were unable to get home before Tuesday, 3rd September.

From the above condensed narrative of our proceedings since we left Montreal, it may be readily seen that anything like systematic dredging was impracticable. Wherever a cast was possible, we availed ourselves of the opportunity, thinking it was better to try an unpromising locality than to do nothing at all. When no dredging could be done, and the weather permitted, towing nets were almost invariably used. Circumstances were so much against us the whole time, that it was only the utmost perseverance and a determination to leave no effort untried that prevented the expedition from becoming a total failure. Owing to the want of room on her deck, the *Stella Maris* is not nearly so well suited for dredging operations as *La Canadienne* or the *Peter Mitchell*; and, in addition to this, she was unusually short-handed while we were on board.

PART II.

Provisional Summary of the Zoological results of the Expedition.

In order to be able to name the various specimens collected with any degree of certainty, it is necessary to have access to collections and books which are not to be met with in Montreal or in any other city of the Dominion. Descriptions of not a few of the Canadian marine invertebrates are to be found only in Norwegian, Swedish, or German scientific journals, some of which I have been unable to see. What would have been still more useful, viz. a correctly-named series of the various marine animals which inhabit the coasts of Norway and Sweden, none of the Canadian museums possess. Under these circumstances, when all the means at my disposal for the identification of certain species were exhausted, there was no alternative but to send specimens of each to some naturalist who had access to larger libraries and completer collections. To Professor A. E. Verrill and Mr. S. I. Smith (both of Yale College, Newhaven, Conn.) I am indebted for much valuable assistance in the preparation of this portion of my report. The former gentleman

has kindly examined and identified a number of critical species sent to him, especially among the Actinozoa and Tunicates, while the latter has determined for me almost the whole of the crustaceans collected. Most of the marine worms dredged in 1871 and 1872 have been sent to Dr. W. C. McIntosh, F.L.S. (of Murthly, near Perth, Scotland), who has given special attention to this difficult group, and has kindly promised to name those forwarded. To each of these gentlemen my thanks are due for the trouble they have taken and the willingness they have shewn to help me in this matter. The strain upon the eyes, caused by an almost constant use of a triplet lens for several weeks, has prevented me doing as much microscopic work as would otherwise have been desirable, to make this report more complete.

Foraminifera.

Although large numbers of these interesting objects were collected, especially from the 313 fathoms' locality, not many novel forms have as yet been observed among them. The following are the most interesting of the species, or varieties, not enumerated in Mr. G. M. Dawson's paper on the St. Lawrence Foraminifera:—*Marginulina spinosa*, M. Sars; *Cristellaria crepidula*, *Bolivina punctata*, *Nonionina umbilicatula*, *Trochammina incerta*, *Valvulina Austriaca*, *Triloculina trigonula*. Very few, if any, truly abyssal forms (such as *Globigerina inflata* and *Pulvinulina Micheliniana* and *elegans*) have as yet been taken in the St. Lawrence. According to Sars, however, some of these are found in 300 fathoms, off the coast of Norway.

Polycystina.

Only a few specimens of this group of animals were collected, and these are exactly the same species as those dredged last year.

Sponges.

Quite a large number of species of sponges were procured, and from all depths. Among these are a simply pinnate sponge with an internal axis of silicious spicules, possibly belonging probably to the genus *Chondrocladia*. Another, of which only fragments were obtained, has true six-rayed spicules, and belongs to the division Hexactinellidae of Dr. Oscar Schmidt. About fifteen or twenty species were collected, some of them of considerable size. All the families of sponges have now been found in the Gulf, except that which includes those which are of the most commercial value, and which are altogether devoid of spicules. The deep-water species collected are of special interest.

Hydrozoa.

A portion of the Hydrozoa collected in 1871 and 1872 have been microscopically examined, and the following species have been recognized so far:—

(Athecata.)

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|----------------------------------|---------------------------------------|
| <i>Coryne pusilla</i> —Gaertner. | <i>Halecium halecinum</i> —Linn. |
| <i>Tubularia indivisa</i> —Linn. | " <i>robustum</i> —Verrill. |
| " <i>larynx</i> —Ellis and Sol. | " <i>muricatum</i> —Ellis and Sol. |
| | <i>Sertularella polyzonias</i> —Linn. |
| | " <i>rugosa</i> —Linn. |

(Thecata.)

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|--|--|
| <i>Obelia</i> —Two Sp. | <i>Sertularia abietina</i> —Linn. |
| <i>Campanularia volubilis</i> —Linn. | " <i>filicula</i> —Ellis and Sol. |
| " <i>verticillata</i> —Linn. | " <i>argentea</i> —Ellis and Sol. |
| <i>Lafoea fruticosa</i> —Sars., var. | " <i>cupressina</i> —Linn. |
| <i>Salacia</i> (<i>Grammaria</i>) <i>abietina</i> —Sars. | <i>Thuiaria thuya</i> —Linn. |
| | " <i>articulata</i> —Pallas. |
| | <i>Aglaiophenia myriophyllum</i> (?)—Linn. |

Actinozoa.

Besides the two common sea anemones (*Metridium marginatum* and *Urticina crassicornis*), Professor Verrill recognizes two species new to the St. Lawrence among the specimens collected last summer. One is *Urticina digitata* (Muller), and the other an *Actinopsis*, apparently distinct from *A. flava* of Koren and Danielssen.

The Alcyoniums of the Gulf require a careful study. There are apparently three species among those obtained in 1872, one of which is *A. rubiforme*, Ehr.

By far the most interesting among the specimens collected are two examples of a true coral. These were taken in two localities, about 150 miles apart—one in 200, the other in 313 fathoms. Although several species of coral are known from Norwegian seas, no members of this group have hitherto been recorded from any locality on the American side of the Atlantic, north of the State of Massachusetts; and not only so, but the St. Lawrence coral (if it be an indigenous species) belongs to a division of this order, of which not a solitary example has been taken so far north on the Atlantic coast of America even as New York Bay. The two specimens obtained, though more or less perfect, were dead, and in a very friable and brittle condition. They are cup corals, which, when living, were tenanted each by a single polypite. Although they obviously belong to the family Turbinolidae, the books at my disposal were insufficient even to name the genus to which they should be referred. They are so unlike any arctic or boreal corals of which I have seen either specimens or figures, and have such a tropical or sub-tropical aspect, that at the time they were dredged I thought they might be specimens brought by ships in ballast. Professor Verrill (to whom I sent one of these corals) writes me that it is an undescribed species of *Flabellum*, and adds that he thinks that the specimens are fossil. The latter hypothesis I think very improbable, as there are no older tertiary or cretaceous deposits in Canada from which such fossils could have been washed out. In 200 fathoms, off Cape Rosier, about fifteen living examples of a *Virgularia* ("Sea Rush") were collected. The genus was then new to America, but other examples have been since taken by Dr. Packard on the St. George's Bank. At first, Professor Verrill and myself thought the St. Lawrence *Virgularia* a dwarf and depauperated variety of the European *V. mirabilis*; but the former now refers it to Kolliker's *V. Lyungmanni*, a species previously known only from the Azores. The same gentleman considers the Canadian *Pennatula* to be a well-marked variety of the *Pennatula aculeata* of Danielssen. This latter he regards as specifically distinct from *P. Phosphorea*, but Kolliker is of a different opinion; so that, after all, the St. Lawrence Sea Pen may be one of the many varieties of the common European species. My specimens present such variable characters that the latter view seems by no means improbable. By far the larger number of examples obtained in 1872 were cut in two by the scraper of the dredge, so that only the upper halves of the cenosarc were found in the bag. This strengthens the idea that these sea pens live with the naked portion of the stem buried in the deep sea mud.

Echinodermata.

Nine specimens of *Schizaster fragilis* were taken in deep water. *Asterias Groenlandicus* Steenstrup occurred in several localities, and *Pteraster militaris* in two. An undetermined species of *Eupyrus* (new to science, *file* Verrill), was dredged in fifty-six fathoms, off Bonaventure Island. The sea cucumbers (Holothurians), collected in shallow water off Cape Rosier, are the largest I have seen from the seas of the Dominion. The following is as complete a list as is at present possible of the echinodermata of the Gulf of St. Lawrence, north of the Bay of Chaleurs. Those to which an asterisk is affixed were found by Dr. Packard, and not by myself:—

**Astrophyton eucnemis*.—Mull and Trosch.

Ophiopholis aculeata.—Mull.

" *Agassizii*.—Stimps.

Amphiura (near to *Borealis*, Sars, *file* Verrill).

Ophiacantha spinulosa.—Mull and Trosch.

- Ophioglypha Sarsii*.—Lutken.
 " *robusta*.—Ayres.
 " *nodosa*.—Lutken.
Ctenodiscus crispatus.—Retzius.
Pteraster militaris.—Muller.
Solaster endeca.—Linn (Pr. Dawson).
Crossaster papposa.—Linn.
Calveria hystrix.—W. Thompson.
Cribella sanguinolenta.—Mull.
Asterias Groenlandicus.—Steenstrup.
 " *vulgaris*.—Stimps. (? *A. rubens*.—
 M. and T.)
Asterias polaris.—Mull and Trosch.
Echinus Drobachiensis.—Mull.
Schizaster fragilis.—Duben and Koren.
Echinarachnius parma.—Gray.
Pentacta frondosa.—Gunner.
 * " *calcigera*.—Stimps.
Psolus phantapus.—Mull.
Lophothuria Fabricii.—Lutken.
 * *Eupyrus scaber*.—Lutken.
 " *nov. sp.*—Fide Verrill.
 * *Myriotrochus Rinkii*.—Steenstrup.
 * *Chirodota laevis*.—Grube.

Annélida.

Dr. W. C. McIntosh writes to me as follows, respecting the collection of marine worms made in 1871 :—"In No. 15, off Cape Rosier lighthouse, in 125 fathoms, are the following :—

- Eunoea nodosa*.—Sars.
Ephesia gracilis.—Rathke.
Nothria conchylega.—Sars.
Ammotrypane aulogaster.—Rathke.
Trophonia plumosa.—Mull.
Sabella pavonia.—Savigny.
Amphiporus (Nemertean).—fragment

"A bottle, marked 'various localities to the south, north, and east of Anticosti,' in from 100 to 112 fathoms contains :—

- Goniada maculata*.—Ersted.
Ammotrypane aulogaster.
Amphitene auricoma.—Muller (tube).
Terebellides Strömii.—Sars.
Thelepus circinatus.—Fabr.
Prazilla gracilis.—Sars.
Trophonia plumosa.
Lineus (Nemertean); small.

"In No. 7 are three species agreeing with the foregoing. In No. 14, 200 fathoms, south of Anticosti, *Lumbrinereis fragilis*, Muller, occurred. In addition, there is a specimen of a small *Balanoglossus*, while a *Lepidonotus*, *Neptiys*, *Maldane*, *Prazilla*, and *Nothria* need determination. It is interesting to find many of our old (Shetland) friends on your side of the Atlantic. All the specimens named are comparatively common, but they are none the less valuable on this account, since they give us information about the distribution of the Annélida, a subject requiring much light." Another letter, received after the 1872 collection had come to hand, contains some general comments on the specimens, as follows :—"I find your collection of this year very much more valuable than that of the previous one. The species are more numerous, the specimens in better condition, and the rarities more abundant. This is all I can tell you at present, as I have done nothing further than group the animals according to their genera. I shall write you when I have had time to finish them." Two species belonging to a group of worms (Sipunculids), formerly regarded as aberrant members of the sea cucumber family, were collected in three localities. One of these is *Phascolosoma borealis*, Kef. (taken also from St. George's Bank, in 110 fathoms), and the other "is probably *P. Erstedtii*, Kef., but may be new."—(Verrill.)

Crustacea.

The crustaceans collected this year are very numerous, both in genera and species, and many of them are of considerable interest. A number of difficult and critical species have been determined for me by Mr. S. J. Smith. To prevent repetition, an asterisk is prefixed to each of these. The microscopic forms, Copepods and Entomostraca, have not yet been examined. The following is a list of those which have been identified, so far :—

(Decapoda.)

Cancer irroratus, Sars (=C. *Sayii*, Gould; not *C. Borealis*: Verrill).—The common crab of the Gulf.

Hyas coarctata, Leach.—Common. A favourite morsel with cod.

Hyas aranea, Linn.—Rare.

Chionocates opilio, Fabr.—Frequent.

**Eupagurus Kroyeri*, Stimps.—Common in dead shells.

**Sabinea septemcarinata*, Owen. (*Sabine* sp.)—Two localities. "Also from St. George's Bank."—(Smith.)

**Nectocrangon iar*, Brandt. (Owen, Sp.)—"Not known south of the Gulf."—(Smith.)

**Hippolyte spina*, White.—From A. 8 and A. 14.

" *macilenta*, Kroyer.—Four examples.

" *Gaimardii*, Kroyer.—("Also in the Bay of Fundy, sparingly." Smith.)

**Hippolyte Phippsii*, Kroyer

* " *Fabricii*, " } —Taken in 1871, but not in 1872.

* " *polaris*, " }

Pandalus annulicornis, Leach.—Common in many places.

(Amphipoda.)

The arrangement adopted in this group is that given in Axel Boeck's *Crustacea amphipoda borealia et artica*, published in the *Forhandlingar i Videnskabs-Selskabet i Christiania* for 1870.

**Hyperia*, sp. (young)—Towing-net.

**Stegocephalus ampulla*, Bell. (*Phipps*, sp.)—A. 8. "We had one from St. George's Bank." (Smith.)

**Phoxus Kroyeri*, Stimpson (not of Bate).—Only one example.

**Eusirus cuspidatus*, Kroyer.—"Not known south of Greenland before."—(Smith.)

**Tritopsis aculeatus*, Boeck. (*Lepechin* sp.)—In fifty-six fathoms, off Bonaventure Island—a local but apparently gregarious species. "We had it from the Banks this summer sparingly." (Smith.)

**Acanthozona cuspidata*, Boeck. (*Lepechin* sp.)—One example, from seventy-five to eighty fathoms, off Cape Rosier—rare. "Not uncommon in the Bay of Fundy." Smith.

**Epimeria cornigera* ? Boeck. (*Fabricius*, sp.)—Frequent, and of large size.

**Calliopius leviusculus*, Boeck.—Towing-net.

**Melita dentata*, Boeck. (*Kroyer*, sp.)—One specimen. "Common in the Bay of Fundy." (Smith.)

**Byblis Gaimardii*, Boeck. (*Kroyer*, sp.)—Five individuals of this species were taken in sixty fathoms, sand, off Bonaventure Island. "Common in the Bay of Fundy." (Smith.)

Caprella septentrionalis, Kroyer.—Abundant among sea weed, on a stony bottom, in seven fathoms, off Cape Rosier.

(Isopoda.)

Munnopsis typica.—M. Sars. A deep-water species, found both in 1871 and 1872.

**Anthura brachiata*.—Stimps. Rare. Two specimens were taken on a stony bottom, in 110 fathoms, off Cape Rosier.

(Pycnogonidae.)

Nymphon giganteum.—Goodsir. In deep water, scarce. One example was taken in 1871 and another in 1872.

Pycnogonum littorale.—Strom. (*P. pelagicum*.—Stimpson.) In 212 fathoms, between the east point of Anticosti and the Bird Rocks.

With the exception of the common lobster (which, from its active habits, is rarely taken in the dredge,) none of the St. Lawrence crustaceans are of much value as an article of human food. They form, however, a by no means inconsiderable element in that of fishes, and their uses as scavengers of the deep have long been known.

Polyzoa.

In the classification of the specimens belonging to this order, I have followed Rev. A. M. Norman (Catalogue of the Shetland Polyzoa), in adopting Mr. Busk's latest views. Smitt's valuable papers on the Scandinavian species have been, however, frequently consulted, and the beautiful plates accompanying them have been found particularly useful in the identification of critical forms. Opinions vary much both as to the generic and specific relations of these molluscoid polyps, and the St. Lawrence species have yet to be properly elucidated. The following list of the species collected is very incomplete, not more than one-fourth of the specimens having been examined microscopically:—

(Cheilostomata.)

- Scrupocellaria scruposa*, Linn.
Menipea (Cellularia) ternata, Ellis and Solander.
Caberea Ellisii, Fleming.—Fine and frequent.
Bicellaria ciliata, Linn.—Deep water—very rare.
Bugula Murrayana, Bean.—Very common.
Flustra Barleei? Busk. (*F. membranaceo-truncata*? Smitt.)
Acamarchis plumosa, Pallas.
Gemellaria loricata, Linn.
Hippothoa catenularia, Jameson.—A form of *Membranipora membranacea*. (Smitt.)
 „ *divaricata*, Lam. = *Mollia (Lepralia) hyalina*, Linn. (Smitt.)
Membranipora lineata, Linn.
 „ *Flemingii*, Busk.
 „ *pilosa*, Linn.
 „ *Americana*, D'Orb.
Lepralia auriculata, Hassell. (According to Smitt an *Escharella*.)
variolosa, Busk. } Varieties of *Discepora coccinea*. (Smitt.)
ventricosa, Hassall. }
pertusa, Esper.
producta, Packard.
plana, Dawson.
Bellii, „
 sp., near to *trispinosa*, Johnston.
Celleporella (Lepralia) hyalina, D'Orb.
Cellepora pumicosa, Linn.
Myriozeugon subgracile, D'Orb.
Escharoides rosacea, Busk.
Eschara elegantula, D'Orb.
 „ *Skenei*? Ellis and Solander.
Celleporaria incrassata, Lam.
Retepora cellulosa var. *elongata*, Smitt.

(Cyclostomata.)

- Crisia eburnea*, Linn.
Idmonea Atlantica, Forbes.
 „ *serpens*, Linn.
Tubulipora flabellaris, Johnston. (= *T. fimbria*, Lam. Smitt.)

Diastopora obelia, Flem.

Patinella patina, Lam.

Discoporella hispida, Fleming (= *D. Verrucaria*, Linn., Smitt.)

Defrancia lucernaria, Sars.

(*Ctenostomata*.)

Alcyonidium gelatinosum, Pallas.

Tunicata.

Ten species of these curious molluscoids were collected, of which six are simple and four are compound forms. Most of these have been examined by Professor Verrill, who has identified all those to which an asterisk is prefixed. The simple species are :—

Botenia clavata? Fabr.—Of large size, a few miles distant from Bonaventure Island, in from fifty to sixty fathoms water.

Cynthia pyriformis? Rathke.—In nine fathoms, rocky bottom, off Cape Rosier.

* „ *carnea*, Verrill. (= *Ascidia carnea*, Agassiz.)—In one locality.

**Eugyra pilularis*, Verrill.—This is the species doubtfully referred to *Molgula arenosa*, in my report for 1871.

**Pelonaria arenifera*, Stimpson.—Very rare. Only one specimen was collected.

**Ascidiopeis complanatus*, Verrill. (Fabricius, sp.)—Taken in several localities this year as well as last.

The four compound species, each of which occurred in several localities in more or less abundance, are :—

Botryllus (sp.)

**Amouræcium pallidum*.

**Leptoclinum albidum*.

* „ „ *glabrum*.

Mollusca.

The number of actual novelties among the shells collected is not large ; still, several interesting species were collected. Most of the rarer deep-sea shells dredged in 1871 were also taken last summer. The following is a list of the most interesting shells : it includes a few species taken in 1871, but which had not been studied or determined when my previous report was written :—

Macoma inflata, Stimpson, M. S. S.—Taken sparingly in many localities.

Astarte.—The two species of *Astarte*, called in my last report *A. sulcata* var. *minor* and *A. crebricostata*—Forbes—I believe to be distinct and undescribed species. Professor Verrill thinks the *A. sulcata* var. *minor* is a dwarf variety of Stimpson's *Astarte lens*. Both shells were taken sparingly this year.

Nucula (sp.)—A small *Nucula*, taken in deep water, seems to me to differ from any described American species.

Yoldia limatula, Say.—Alive in sixty fathoms, about five miles from Bonaventure Island.

Leda tenuisulcata, Couth.—Typical examples of this shell were taken in 110 fathoms, off Cape Rosier. Perhaps a variety of *Leda permla*.

Dacrydium vitreum, Holboll.—Several specimens of this shell occurred with the preceding.

Terebratella Spitzbergensis, Davids.—Sparingly, in four or five localities.

Scaphander puncto-striatus, Mighels. (= *S. librarius*, Loven.)—One fine adult living example, one inch and an eighth long, was dredged in 200 fathoms, between Cape Rosier and the south-west point of Anticosti.

Cylichna strigella? Loven. Alive in deep water, rare.

Dentalium occidentale, Stimps.—Dead but adult specimens of this shell, taken in 1871, were referred by me to *D. abyssorum*, Sars. A series of living examples, of all

ages, collected last summer in deep water, shew that the species is not pentagonal when young, and that it belongs to Stimpson's previously obscure and rare species.

Siphonodentalium vitreum, Sars.—With the preceding: it is the *Dentalium lobatum* of Sowerby.

Rissoa (Paludinella) globulus, Möller.—One specimen, in sixty fathoms, off Bonaventure Island.

Rissoa carinata, Mighels.—In ninety-six fathoms, Trinity Bay, alive and frequent.—1871.

Rissoella eburnea, Stimps.—One living adult, in seventy fathoms, off Moisie village.—1871.

Eulima stenostoma,—Jeffreys.—Another specimen of this rare shell was taken in deep water.

Sipho curtus, Jeffreys.—This is *Sipho Sarsii*, Jeffreys, of my previous report. *S. curtus* seems to be the proper name.

Sipho Spitzbergensis? Reeve.—In sixty fathoms, off Bonaventure Island.

Fasciolaria ligata, Mighels.—Gaspé Bay, thirty fathoms, stones, living.—1871.

Spirialis balea? Möller.—Dead shells of this species were taken from the mud brought up from 313 fathoms. Upwards of 150 species of marine mollusca are now known from the seas of the Province of Quebec.

Fishes.

A solitary specimen of the Saund Launce (*Ammodytes Americanus*) was the only fish brought up by the dredge. On the surface, *Gasterosteus aculeatus*? was always abundant, and many examples of young "lump-suckers" (*Cyclopterus lumpus*) and of a species of Blenny were taken in the towing-net.

From the preceding sketch, it may be seen that the most interesting specimens among the species determined belong to the *Actinozoa* and *Crustacea*. There are many curious and rare forms also among the sponges, Hydrozoa and marine worms collected, but these have yet to be studied. If, notwithstanding the numerous difficulties we had to contend with, so much new information was obtained about the invertebrates inhabiting the river and Gulf of St. Lawrence, what might we not expect from more systematic and extended operations?

In the following and concluding portion of this report, an attempt will be made to shew the practical bearings of the various facts collected during the past summer.

PART III.

Notes on some points relating to the Sea Fisheries of the Province of Quebec, and on other Practical Subjects.

Such remarks as refer exclusively to matters connected with the sea fisheries of the Gulf are offered with much hesitation. My actual experience is limited to five summers' visits to the Lower St. Lawrence, and is doubtless less, in some respects, than that of many, if not of most, of the superintendents or managers of the various large fishing establishments along the coast. Such examinations as I have been enabled to make into the nature of the animal life existing on the sea bottom, or floating on its surface, can hardly, however, fail to throw some light on the habits and food of the most important edible fishes.

The area that I have attempted to explore extends on the North Shore from Point des Monts to a few miles east of Natashquan, and on the South from the Grande Vallée River to the Magdalen group. It embraces a complete circuit around Anticosti and the Magdalen Islands.

In this region, the most important sea fishes (from an economic point of view) are the cod and halibut, the herring and mackerel. The first two of these feed for the most part at the bottom, and the last usually at or near the surface of the sea.

There are many points in connection with the natural history of the cod fish (or fishes) of the St. Lawrence which require elucidation. Whether there are one, two, or even more species is not very clearly ascertained. Dr. Gunther says that the European cod (*Gadus morrhua*, Linn.) ranges from the "coasts of northern Europe, Iceland and Greenland, southwards to New York." On the other hand, Mr. Putnam and Professor Gill state that the cod of the Labrador coast is the American cod, *Gadus arenosus* of Mitchell, the *Morrhua Americana* of other writers. If the European and American cod are distinct species—a point which, we think, has yet to be decided—it is probable that both are to be found in the Gulf of St. Lawrence.

A few experiments made on the spot, in the depth of winter, would throw much light on what becomes of the cod, and of other kinds of fish also, in the cold months. Whether this species is migratory or not in its habits is quite an open question, so far as facts are concerned. We now know something of the animal life of the deep-sea mud, though not so much as could be wished. Although the invertebrate fauna of the deep sea is tolerably varied, there is a far larger number both of species and individuals in the zone between low-water mark and from sixty to seventy fathoms water, than there is between 100 and 300 fathoms. Such, at least, is my experience, so far. But in Canada it is by no means improbable that many species, especially among the higher crustacea, may live in shallow water in the summer and retire to deeper places in winter. As it is not possible to dredge at this season, we cannot tell whether such is the case or not. The evidence in our possession is at present insufficient to shew more than that a certain amount of food for cod does unquestionably exist in the greatest depths.

The dates at which cod spawn vary much in different seasons and at different places. No kind of animal food seems to come amiss to this fish. It devours greedily herring, capelin, mackerel, lance, squids, crustaceans, mollusca, brittle stars, and even, as Dr. Fortin and others assure me, young individuals of its own species. After the spawning season is over, the adult cod (the "mother fish" of the fishermen) congregate mostly on banks, where they devour crustaceans, molluscs, &c. The young fish, on the other hand, live and feed in shallow water, near the shore. The cod which feed on banks, take only, or almost only, full-grown specimens of crabs, shells, &c, and leave immature ones. As these fish rarely visit the same feeding ground two years in succession, a constant supply of food is thus ensured. The natural enemies of the cod are, fortunately, not very numerous, nor do they seem to affect the value of the fisheries in an appreciable way. The grampus and the various kinds of seal, the osprey, bald eagle, and various sea birds, together with sharks and some other large fishes, undoubtedly destroy great numbers of cod. Far more to be feared than these are the results which can hardly fail to ensue from a wasteful and improvident system of fishing.

The practice of manuring the ground with capelin, herrings, &c. (and doubtless often with young cod also), has often been complained of: it should be discouraged and if possible put a stop to. From the Appendices to the last Report of the Fisheries branch of this Department, I learn that in the year ending 30th June, 1871, 1,457 barrels of herring, 7,848 of capelin, and 260 of smelts, were used as manure!

In Gaspé Bay, complaints have often been made in my hearing of the use of seines along shore (by Americans), for the purpose of catching mackerel or bait. Large quantities of young cod are said to be caught in these seines with the mackerel, and the former are thrown away as useless. It seems desirable to prevent, as far as possible, the capture of cod of a size too small to be of any value for food. Crews of United States' schooners, &c., fishing outside the three-mile limit, clean and salt the fish caught on board their vessels, and almost invariably throw the offal overboard upon the fishing grounds. It is said that this latter proceeding has an injurious effect, and that it tends to drive the cod away from its spawning grounds. This, however, may be local prejudice merely; and in justice to the Americans it must be added, that the law does not, at present, allow

them to clean and prepare their fish ashore. If it is illegal to throw the offal overboard, as I have been informed is the case, what else are they to do?

The utilization of cod-offal is a matter of considerable importance to the residents along our sea coast. If the offensive smell could be cheaply and easily removed, a valuable manure would always be available for agricultural purposes. Many methods for effecting this have been devised, and I venture to suggest that earth is well known to be one of the best deodorizers. In many places on the north shore of the St. Lawrence, visited by me in 1871, the stench from decomposing fish offal spread upon the fields with no previous preparation was almost intolerable. As might have been expected, many cases of fever, etc., were reported at these stations, which Commander Lavoie attributed wholly to the noisome effluvia of this primitive manure. Many intestinal worms are to be found in the stomachs of cod; and as pigs feed largely upon fish-offal, and pork is the principal meat consumed along the coast, it is easy to see that diseases may arise in this way.

With regard to the halibut fishery I have very little practical knowledge. Dr. Storer, in his excellent memoir on the fishes of Massachusetts, states it as his opinion that the American halibut is identical with the European species, the *Hippoglossus vulgaris* of Fleming. Later writers, however, on both sides of the Atlantic, think differently on this point. Dr. Gunther describes the Canadian fish as a distinct and new species, to which he gives the name *Hippoglossus Groenlandicus*. He says that the halibut of Europe "has the lateral line with a strong curve above the pectoral, the depth of the curve being one-fourth its width." In the Canadian species, according to the same writer, "the lateral line descends gently in an oblique straight line above the pectoral, and is not curved." Professor Theodore Gill, in a paper on the fishes of the Bay of Fundy (published in the *Canadian Naturalist*, vol. ii., page 257), gives the name *Hippoglossus Americanus* to the St. Lawrence halibut. In summer, this species appears to feed along the bottom in shallow water; and in winter it probably retires to the deepest places it can find. Few Canadians seem to engage in the halibut fishery: it appears to be at present mainly prosecuted by Americans. In the Montreal retail market, halibut fetches a somewhat high price, ranging from 13 to 20 cents per pound.

It has never been my good fortune to visit any station along the coast where either herring or mackerel is cured for the market; nor have I been able to examine the contents of the stomachs of either.

Many American naturalists, such as Lesueur, Storer, and others, regard the American herring as a distinct species from the European fish. Dr. Gunther and Professor Reinhardt are of a different opinion, and can see no essential difference between the two so-called species. Dr. Gunther also states that all the whitebait he has seen are young herrings. I am aware that this latter statement has been called in question, but, in my judgment, it has not been disproved. If, then, the American and the European herring are conspecific, and whitebait are young herring (both of which Dr. Gunther asserts to be the case), it follows that, in summer, whitebait must be abundant in the Gulf of St. Lawrence. There seems to be no reason why whitebait dinners should not be as feasible at Tadousac, &c. as they are at Richmond, and other places of resort in or near London. The so-called "sardines" of the Lower St. Lawrence are young herrings. The true sardine of the Mediterranean (which appears to be the same species as the pilchard of Cornwall) has not yet, so far as I know, been found in America. In Commander Lavoie's report of the cruise of *La Canadienne* for 1871, it is stated that large quantities of herring are taken at the Magdalen Islands by means of the seine. The following passage is quoted from a lecture on the herring fishery, by M. A. Warren, Esq., the owner of a large fishing establishment on the Labrador coast:—"Of late years, herring seines have been much used on the Labrador coast, almost entirely superseding the use of nets, to the manifest injury of the fishing population."

The common mackerel of our coast is probably the *Scomber scombrus* of Linnaeus, of which the *S. vernalis* of Mitchell appears to be a synonym. If Dr. Gunther's view be the correct one, the mackerel of Canada and New England is the same as that of Northern

Europe. Mr. Putnam says that "the northern limit of the mackerel is the Strait of Belle Isle;" while, according to Professor Reinhardt, the cod, halibut, and herring are found in Greenland, but the mackerel is not. In the European species there is no air-bladder. Like the cod, the mackerel is very voracious, and seems to take readily all kinds of animal food. Besides devouring small fishes of various kinds, like the herring it feeds also upon such marine animals as float on or near the surface of the water.

By the use of the towing-net during the last summer, a fair general idea of this surface fauna has been gained. These floating animals may conveniently be divided into two groups—those which are purely oceanic, and those which are washed out to sea from the shore. To the first of these divisions belong jelly fishes, of many genera and species, and minute crustaceans. In Gaspé, the fishermen call jelly fishes "mackerel bait," and floating crustaceans "whale bait." The "red" and the "white" herring meat of Mr. Boeck (see page 114 of this report) belong to this group. What is practically the "red" herring (and mackerel) food is abundant in the St. Lawrence, although the genera and species in the two countries may not always be the same. The "white" meat also may be not unfrequent, for the number of marine worms in the Gulf is very large. Our second division includes all those creatures which live on or among the larger sea weeds which originally grow near low-water mark, but which get drifted out to sea. Amongst these weeds may be found small fishes of two or three kinds, the fry of the common sea mussel, and a few species of sea snails, amongst them naked gilled sea slugs of the genus *Doris*. The crustaceans are for the most part the fry of the common crab, and full-grown examples of beach fleas, which belong to the order Amphipoda of zoologists. The weeds are also more or less covered with parasitic barnacles, and zoophytes belonging to the orders Hydrozoa and Polyzoa. The "black" meat previously spoken of has not yet been detected upon algae in the St. Lawrence. In Europe, the species of *Rissoa* are very numerous, and several kinds live in shallow water near the shore. In Canada, only six kinds of *Rissoa* are known north of the Bay of Chaleurs, and five of these are peculiar to comparatively deep water, while the other is not very common. Not a single adult specimen of the latter was observed, although quantities of floating masses of weed brought up in the towing-net were carefully examined. Besides the two groups just described, in which the animals are strictly marine, large numbers of land and fresh-water insects are drifted out to sea in the summer months. These belong to many orders and species, and are not unfrequently taken alive.

It is said that fish which are killed and bled as soon as they are caught are much better than those which are allowed to die a natural death. Some methods of killing fish are stated to offer peculiar advantages. The Dutch plan is to sever the spinal cord and arteries of the neck, just at the back of the head, with a knife. Nothing of the kind is ever dreamt of by the Lower Canadian fishermen, who allow the cod they have caught to suffocate in a lingering way, often under a hot sun.

In a short time, the fishery clauses of the Treaty of Washington will, doubtless, come into practical operation. No opportunity can be more fitting than the present for an examination into the existing laws relating to the fisheries, to see if they are capable of amendment or improvement. It is desirable on the one hand to try and check any waste of the bountiful supplies with which our coasts now periodically teem, and on the other to teach the fishing population the best and most approved methods of preserving the fish they catch. That no little waste of valuable food has hitherto taken place is undeniable, and there is too much reason to fear that this evil may reach to still graver dimensions, and that the fisheries may be exhausted or impoverished, unless precautionary measures be taken to prevent such a calamity to the dwellers along our sea board. It has been recently stated by Montreal merchants, in the daily papers, that the quality of some of the salt fish prepared on the coast is so bad as to make it almost worthless in the market. This circumstance, however, may be attributable to the unusual amount of rainy and wet weather experienced in the Gulf last summer.

It seems desirable that a *Special Commission* should be appointed to investigate into, and from time to time report upon, all matters which affect the sea fisheries of Canada. The commission suggested should have power to make such necessary regulations as other countries have found desirable for the protection and development of their resources in this direction. As great attention has been directed by scientific men in the United States, of late years, to all questions connected with the sea and river fisheries, it would be very desirable to ask some of these gentlemen to form part of the proposed commission, and to give us the benefit of their experience. If this body were composed of an equal number of representatives from Canada and the United States, it is reasonable to infer that the authorities of the neighbouring republic would acquiesce in such measures as the common sense of all might suggest for adoption. Of course, it would be of little use to make a new code of regulations, however excellent these might be in themselves, unless they are to be properly enforced. The present small fleet of Government steamers would be no more than sufficient to see that they are effectually carried out, and to preserve order along such a large extent of coast.

Since my last report was written, I have examined all the ship worms I have been able to procure from Canadian waters. The Gaspé Bay species, dredged by Principal Dawson, in water-logged wood, is *Xylophaga dorsalis* of Turton, a genus new to America. It must be of very rare occurrence at this locality, for I have dredged in upwards of twenty localities in the Bay without finding it. *Teredo navalis*, Linn., occurs at St. John, N. B., and at Pictou, N. S., I have seen specimens from each of these ports. This is the same species which made such ravages among the piles in Holland, in the years 1731 and 1732. Ship worms of large size are said to be found at Halifax; and Mr. J. J. Fox informs me they are frequent in the hulls of vessels anchored among the Magdalen Islands. I shall be glad to examine and report upon any specimens that may be sent to me from any part of the Dominion. The worms may be best preserved in alcohol, or pieces of the wood burrowed into by them may be forwarded. These latter often contain the valves and pallets of the mollusc, which are sufficient to identify the species.

The use of the dredge throws some light on the feasibility or otherwise of a project which has been much talked of, viz.: that of laying submarine telegraph cables in the Gulf of St. Lawrence. A much better idea of the nature of the bottom of the sea can be got by dredging than by merely using sounding lines. As I have elsewhere shewn, the deep-sea mud is not unfrequently dotted over with large and often irregular stones, with ragged edges, and these might ultimately chafe and cut such cables. The approximate temperature (in summer) of the deep-sea mud, and of depths varying from 30 to 313 fathoms, has been ascertained as far as possible. It is highly probable that this temperature is pretty uniform throughout the year. And lastly, by means of such investigations as the present, it is quite feasible to ascertain whether such marine animals exist along a given line as might injure a submarine cable, by boring into it or otherwise.

Montreal, 14th January, 1873.

APPENDIX

RETURN of Fishing Stations, Yield, Value, Number of Men employed, Number of

Divisions.	No. of Men employed.	Value of Boats, Nets and Material employed.	Gill Nets, yards.	No. of Scoop Nets.	No. of Seines.	No. of Hoop Nets.	No. of Pound Nets.	White Fish, brls.	Trout, brls.	Herring, brls.
Rideau Division.....	358	\$ 5,816	8,880	.....	.....	300	.....	70	.....	30
Brookville and Cornwall Divisions.....	32	1,670	5,060	...	3	14	.....	.....	.....	.....
Wolfe Island Division.	Amherst Island.....	10	750	4,875	.....	.....	.....	69	91	.....
	Pigeon Island.....	8	550	8,250	.....	.....	.....	1	155	.....
	Desert Lake.....	2	50	400	.....	.....	.....	.....	3	.....
	Bear Point and Charity Shoal.....	10	650	8,250	.....	.....	.....	.....	140	.....
	Long Point.....	8	650	8,250	.....	.....	.....	150	150	.....
	Cataragui River.....	6	890	.....	.....	24	.....	.....	.....	.....
	Simcoe & Snake Islands.	10	525	5,200	.....	.....	.....	90	15	10
	Gananoque Lake and Thousand Islands.....	7	430	2,500	.....	11	.....	.....	.....	.....
	Carrying Place to Salmon Point.....	35	1,449	16,060	.....	11	.....	186	25	150
	Salmon Point to Point Peter.....	57	2,400	37,000	.....	.....	.....	76	.....	.....
	Point Peter to Petticoat Point.....	16	.....	.....	.....	1	.....	95	.....	5
	Petticoat Point to Black River.....	17	535	12,800	.....	.....	.....	117	50	.....
	Black River to Bongard's Wharf.....	54	2,860	53,900	.....	.....	.....	975	73	5
	Bay of Quinte Division.....	118	8,450	22,350	.....	14	70	90	.....	3,655
	Cobourg Division.....	14	1,270	10,560	.....	3	.....	5	68	7
Lake Ontario.	Whitby Harbour.....	6	.....	2,770	.....	.....	.....	.....	15	.....
	Shoal Point.....	4	.....	4,280	.....	.....	.....	25½	5	18
	Frenchman's Bay.....	4	.....	8,000	.....	1	.....	25	20	10
	The Refuge.....	4	.....	.....	.....	1	.....	.....	.....	.....
	Port Union.....	10	.....	11,400	.....	1	.....	3	37½	3
	Gate's Gully.....	2	.....	.....	.....	1	.....	8	.....	.....
	Scarborough & Leslieville	6	12,380	16,300	.....	2	.....	27	52	10
	Ashbridge's Bay.....	6	.....	5,400	.....	.....	.....	.....	.....	12
	Toronto Island.....	13	.....	16,000	.....	6	.....	119	25	58
	Port Credit and Humber River.....	3	.....	250	.....	1	.....	.....	.....	.....
	Bronte.....	4	.....	5,200	.....	.....	.....	30	7½	.....
	Burlington Bay.....	99	.....	18,860	.....	14	.....	78	.....	210
	Wynona.....	2	.....	2,900	.....	.....	.....	33	.....	3
	Jordan.....	4	14,894	3,100	.....	1	.....	33	.....	.....
	Clinton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Port Dalhousie.....	2	.....	3,800	.....	1	.....	3	2	.....
	Four Mile Creek.....	8	.....	5,000	.....	3	.....	91½	0½	10
	Two Mile Creek.....	4	.....	1,400	.....	1	.....	30	.....	10
	Niagara River.....	12	5,763	8,050	.....	3	.....	97½	1½	10
	Queenston.....	11	.....	.....	.....	1	.....	.....	.....	37

L.

Nets, and Yards of Gill Nets, in the Province of Ontario during the Year 1872

Salmon, bbls.	Maskinonge, bbls.	Pike and Bass, bbls.	Pickeral, bbls.	Coarse Fish, bbls.	Total No. of Barrels of Fish.	Value.		Total Value.	Where disposed of	Remarks.
						Fresh.	Pickled.			
.....		370	20	370	860	\$ 4,660	\$	\$ 4,660	Canada.....	156 Salmon were also caught.
.....		41	17	45	103	1,076	.....	1,076	Brockville and State of New York.....	
.....		6	4	.....	170	1,360	.....	1,360	United States.	
.....					155	1,200	40	1,240	Canada & U.S.	
.....					6	36	12	48	Canada.....	
.....					140	1,058	32	1,120	Canada & U.S.	
.....					300	2,400	.....	2,400	United States.	
.....				124	124	558	.....	558	do do	Principally bull-heads, sold chiefly in Kingston.
.....		8	6	.....	129	990	.....	990	Canada.....	
.....		63	17	42	122	594	.....	594	United States.	
.....					341	.....	2,388	2,388	Consecon and other places.	
.....					76	500	260	760	United States.	
.....					100	970	10	980	Canada & U.S.	
.....		100	15	.....	282	2,256	.....	2,256	United States.	
.....		50	.....	5	1,108	8,454	280	8,734	Canada & U.S.	
.....				450	3,615	4,500	13,200	17,700	Canada.....	
.....					80	800	.....	800	do.....	
.....		5½	.....	.....	20½	63	.....	63	Whitby.....	
.....					42½	413	.....	413	Whitby.....	
.....					55	550	.....	550	Toronto.....	
.....				1	1	10	.....	10	The Rouge...	
.....					42½	424	.....	424	Toronto.....	
.....					8	80	.....	80	Scarborough...	
.....		15	.....	2	106	995	.....	995	Scarborough & Toronto.....	
.....		55	.....	4	71	496	.....	496	Toronto.....	
40		35	.....	115	392	2,828	160	2,986	Toronto.....	
.....				15	15	65	.....	65	Port Credit...	
62				99½	99½	955	.....	955	Niagara and Hamilton...	
110½		142	.....	90½	631	5,560	.....	5,560	Hamilton.....	
.....					36	426	.....	426	do.....	
.....		10	.....	40	83	656	.....	656	County of Lincoln.....	
5			10	4	24	170	.....	170	St. Catharines.	
.....			10	.....	112	1,071	.....	1,071	St. Catharines & Niagara...	
.....			20	.....	60	500	.....	500	St. Catharines.	
1			42	.....	152	1,335	.....	1,335	St. Catharines & Niagara...	
.....				45	82	655	.....	655	St. Catharines & Niagara...	if machines also fished.

APPENDIX L.—RETURN of Fishing Stations, Yield, Value, Number of Men during the

Divisions.		No. of Men employed.	Value of Boats, Nets, and Material employed.	Gill Nets, yards.	No. of Scoop Nets.	No. of Seines.	No. of Hoop Nets.	No. of Pound Nets.	White Fish, bbls.	Trout, bbls.	Herring, bbls.
Lake Erie.	Black Creek.....	12	8			3					100
	Fort Erie.....										
	Port Maitland.....	4				1			5		
	Dunnville.....	30				6					
	Wardell's Bay.....	4		3,600					17		
	Miller's Bay and Hover's Bay.....	6	2,953	1,900					26½		
	Sandusk Creek.....	2		840	1				8½		
	Peacock Point.....	2		900					12½		
	Nanticoke.....	2		900					5		
	Woodhouse & Walpole..	8		6,300					39		
	Port Ryerse.....	10		2,400					9		
	Normandale and Turkey Point.....	8		7,500		3			52½		32
	Turkey Point.....	16				4			38		50
	Long Point.....	27				6			28		
	The Little Otter.....	4	6,656			1					
	Port Burwell.....	4				1			1		
	Silver Creek and Port Bruce.....	17				2			5		
	Port Stanley.....	5				1					1
	Port Talbot.....	4				1					12
Lake St. Clair Huron.	Morpeth.....	2	700					1	50		44
	Pointe aux Pins.....	1	500			1			50		40
	Romney.....	2	600					1	25		40
	Point Pelee Island.....	6	2,500					5	121		158
	Point Pelee.....	6	1,500					3	160		
	Mereca.....	3	800					2	80		
	Goshfield.....	6	1,000					2	130		
	Belle Isle.....	41	2,600			6			350		
	Peach Island.....	14	800			2			120		
	Peach Point.....	14	500			2			90		
	Fighting Island.....	70	12,000			16			900		500
	Bois Blanc Island.....	14	8,000			2			100		
	Grass Island.....	7	300			1			40		
	Turkey Island.....	7	300			1			40		
	Detroit River.....	84	6,200			16			802		
	Colchester.....	3	500					1	60		
	Thames River.....	87	1,484			16					
	Sydenham River.....	4	65			1					
	Lake St. Clair and Mitchell's Bay.....	12	341		3	4					
	Boisquet.....	60	3,500			15			617		64
	Port Frank.....	6	1,400	1,800					400	116	
	Bayfield.....	18	3,200	32,730					680	106	

employed, Number of Nets, and yards of Gill Nets, in the Province of Ontario, Year 1872.—Continued.

Scisco, brls.	Maskinonge, brls.	Pike and Bass, brls.	Pickarel, brls.	Coarse fish, brls.	Total No. of Barrels of Fish.	Value.		Total Value.	Where disposed of.	Remarks.
						Fresh.	Pickled.			
.....			1	.....	103	622	.....	622	Fort Erie and	
.....			60	40	100	920	.....	920	Buffalo, U.S.	
.....			5	45	50	376	.....	376	do do	Six Pike-nets also fished
.....	6	.....	30	140	176	1,090	.....	1,090	Danville.....	Twelve dip-nets fished.
.....				0 $\frac{1}{2}$	17 $\frac{1}{2}$	174	.....	174	Rainham.....	
.....					23 $\frac{1}{2}$	265	.....	235	do	
.....				15	12 $\frac{1}{2}$	160	.....	160	Cherrieside.....	
.....					12 $\frac{1}{2}$	125	.....	125	do	
.....					5	50	.....	50	do	
.....					39	391	.....	391	Port Dover.....	
.....			100	90	190	1,234	.....	1,234	Port Ryerse & Buffalo, U.S.	
.....					27 $\frac{1}{2}$	321	.....	1,232	Turkey Point.	
.....					54	85	.....	1,743	do	
.....			40	34	97	190	.....	1,372	St. William's, Turkey P.&c.	
.....		2	2	.....	4	49	.....	40	Port Burwell.	
.....			3	10	14	94	.....	91	Tp. of Bayham	
.....				45	43 $\frac{1}{2}$	93 $\frac{1}{2}$	.....	975	Township of Southwold..	
.....				23	24	60	.....	69	Yarmouth and Port Stanley	
.....	2	17	40	33	104	489	.....	489	County of Elgin.....	
.....		10	42	.....	146	814	.....	811	Tp. of Howard	
.....		10	12	.....	112	622	.....	622	do Harwich	
.....		10	25	.....	100	500	.....	500	do Romney	
.....		90	.....	3	372	1,403	.....	1,403	Sandusky, Ohio, U.S.	
.....					150	1,360	.....	1,360	do	
.....					80	560	.....	560	do	
.....					130	910	.....	910	Kingsville.....	
.....					350	5,250	.....	5,250	Detroit, Michigan, U.S.	
.....					120	1,800	.....	1,800	Windsor and Detroit, U.S.	
.....					90	1,300	.....	1,300	do do	
.....					1,400	15,000	.....	15,000	do do	No return was received by the Overseer from Henand Chickens Id.
.....					190	1,500	.....	1,500	do do	
.....					40	400	.....	400	do do	
.....					40	400	.....	400	do do	
.....					802	12,030	.....	12,030	do do	
.....					60	420	.....	420	Colchester.....	
.....						7,245	.....	7,545	Chatham, Detroit & Buffalo	
.....						600	.....	600	In the Neighborhood.....	Pickarel.
.....						410	.....	410	Chatham.....	Mullet & Stickers. 6.23
.....			124	285	1,090	2,468	2,365	4,833	Canada	Principally pike & bass
.....					516	4,128	.....	4,128	Canada & United States...	
.....					848	6,784	.....	6,784	do	
.....	8—18 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	

APPENEIX L.—RETURN of Fishing Stations, Yield, Value, Number of Men during the Year

Divisions.		No. of Men employed.	Value of Boats, Nets and Material employed.	Gill Nets, yards.	No of Scoop Nets.	No. of Seines.	No. of Hoop Nets.	No. of Pound Nets.	White Fish, brls.	Trout, brls.	Herring, brls.
Lake Huron.	Goderich.....	48	\$ 10,300	153,900	.....	.....	.....	.....	1,632	992	.....
	Port Elgin.....	6	1,200	1,600	.....	.....	.....	.....	300	300	.....
	Southampton.....	9	2,000	1,800	.....	.....	.....	.....	200	450	.....
	Jack Island.....	4	101	6,000	.....	.....	.....	.....	30	.....	50
	Kincardine.....	18	3,500	30,600	.....	.....	.....	.....	680	168	.....
	White Fish Island.....	12	770	7,000	.....	.....	.....	.....	.....	.....	400
	Cigar Island.....	10	900	8,000	.....	.....	.....	.....	.....	.....	300
	Main Station.....	15	2,670	1,200	.....	1	.....	.....	200	150	370
	Snake Island.....	4	300	450	.....	.....	.....	.....	.....	.....	200
	Inverhuron.....	6	1,200	1,600	.....	.....	.....	.....	300	216	.....
	Burke's Island.....	10	1,200	10,000	.....	1	.....	.....	40	30	100
	Round Island.....	4	200	5,500	.....	.....	.....	.....	20	.....	50
	River au Sable.....	30	3,600	25,000	.....	1	.....	.....	20	80	600
	Red Bay.....	8	750	7,000	.....	.....	.....	.....	35	60	200
	Lion's Head.....	4	.....	800	.....	.....	.....	.....	50	20	.....
Georgian Bay.	Vail's Point.....	6	.....	9,000	.....	.....	.....	.....	100	50	.....
	Cape Rich.....	9	.....	18,000	.....	.....	.....	.....	200	100	.....
	Meaford.....	4	10,950	12,000	.....	.....	.....	.....	70	30	.....
	Thornbury.....	4	.....	7,000	.....	.....	.....	.....	80	40	.....
	Collingwood.....	20	.....	15,000	.....	.....	.....	.....	300	200	.....
	Notawassaga River.....	3	.....	8,000	.....	.....	.....	.....	50	.....	.....
	Lake Simcoe and Tributaries.....	18	645	1,700	.....	6	.....	.....	60	46	7
	French River.....	8	.....	1,875	.....	.....	.....	.....	39	21	.....
	Point Grouardine.....	7	.....	1,575	.....	.....	.....	.....	52	28	.....
	Shawanaga.....	18	.....	3,375	.....	.....	.....	.....	97	53	.....
Lake Huron.	Shishegwaning and Cockburn Islands.....	44	.....	12,600	.....	.....	.....	.....	321	179	.....
	West Bay.....	50	.....	17,250	.....	.....	.....	.....	289	161	.....
	Wikwemikong.....	100	.....	22,500	.....	.....	.....	.....	643	357	.....
	Byng Inlet.....	4	.....	1,350	.....	.....	.....	.....	39	21	.....
	Christian Islands.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Mink Island.....	4	.....	1,500	.....	.....	.....	.....	32	18	.....
	Grand Ducks & Green Island.....	30	.....	30,000	.....	.....	.....	.....	772	428	.....
	Michael's Bay.....	7	.....	1,875	.....	.....	.....	.....	77	43	.....
	Yeo Island & Providence Bay.....	28	.....	6,375	.....	.....	.....	.....	193	107	.....
	Thebo Island.....	12	.....	3,000	.....	.....	.....	.....	193	107	.....
	South Bay.....	10	.....	3,375	.....	.....	.....	.....	167	93	.....
	Cove Island.....	16	.....	6,000	.....	.....	.....	.....	257	143	.....
	Collin's Inlet.....	2	.....	450	.....	.....	.....	.....	6	4	.....
	Killarney.....	16	.....	3,750	.....	.....	.....	.....	167	93	.....
	Fraser's Bay.....	3	.....	675	.....	.....	.....	.....	22	13	.....
	La Cloche.....	2	.....	750	.....	.....	.....	.....	16	9	.....
	Spanish River.....	4	.....	900	.....	.....	.....	.....	58	32	.....
	John's Island.....	9	.....	1,350	.....	.....	.....	.....	51	29	.....
	Serpent River.....	6	.....	1,800	.....	.....	.....	.....	129	71	.....
	Algoma Mills.....	10	.....	2,250	.....	.....	.....	.....	80	45	.....
	Thessalon River and Bigby's Island.....	16	.....	4,500	.....	.....	.....	.....	225	125	.....

employed, Number of Nets, and Yards of Gill Nets in the Province of Ontario, 1872.—Continued.

Siscos, brls.	Maskinonge, brls.	Pike and Bass, brls.	Pickeral, brls.	Coarse fish, brls.	Total No. of barrels of Fish.	Value.		Total Value.	Where disposed of.	Remarks.
						Fresh.	Pickled.			
					2,624	\$ 20,992	\$	20,992	Canada & U. S.	No returns were received from the Overseers of these Divisions, although they frequently requested to forward them. The statistics given were furnished by Overseer McKinnon of the Goderich Division.
					600	2,400	2,100	4,500	do	
					650	2,000	2,800	4,800	do	
					80	240	150	390	do	
					848	6,784		6,784	do	
					400	1,200		1,200	do	
					300		900	900	do	
					720		3,560	3,560	do	
					200		600	600	do	
					516	4,128		4,128	do	
					170		790	790	do	
					70		290	290	do	
					700		2,500	2,500	do	
					245		1,265	1,265	do	
					70		350	350	Toronto and Owen Sound.	
					150	500	250	750	do do	Yield not known.
					300		1,500	1,500	Detroit, U. S.	
					100	450		450	Meaford & Collingwood	
					120	300	200	500	Toronto	
					500	1,200	1,300	2,500	do	
				30	80	200	200	400	do	
					115	940	70	1,010	Barrie Beaverton, &c., &c.	
					60		420	420	Canada	
					80		560	560	do	
					150		1,050	1,050	do	
					500		3,500	3,500	do	
					450		3,150	3,150	do	
					1,000		7,000	7,000	do	
					60		420	420	do	
					50		350	350	do	
					1,200		8,400	8,400	do	
					120		840	840	do	
					300		2,100	2,100	do	
					300		2,100	2,100	do	
					260		1,820	1,820	do	
					400		2,800	2,800	do	
					10		70	70	do	
					260		1,820	1,820	do	
					35		245	245	do	
					25		175	175	do	
					90		630	630	do	
					80		560	560	do	
					200		1,400	1,400	do	
					125		875	875	do	
					350		2,450	2,450	do	

APPENDIX L.—RETURN of Fishing Stations, Yield, Value, Number of Men during the Year

Remarks.	No. of Men employed.	Value of Boats, Nets and Material employed.	Gill Nets, yards.	No. of Scoop Nets.				White Fish, brls.	Trout, brls.	Herring, brls.
				No. of Seines.	No. of Hoop Nets.	No. of Pound Nets.				
Lake Superior.										
St. Mary's Rapid	6			6			100			
Bachewaning	8	1,000					41			
Goulais Bay	2	250						131		
Lizard Island	4	1,500					300	210		
Dog River	5	650		12			60			
Michipicoten Island	16	3,600					400	601		
Echo Lake & Pic Island	4	160		12						
Pays Plat	8	800					75	50		
Grand Saginaw	7	370					122	90		
Silver Islet	2	500					25	18		
Lake Nipigon	38	1,450					493			
Point Metron & Roche de Bout	6	275					75	13		
St. Joseph's Island	10	275					117	120		
Fort William	4	625		1			250	16		
Totals	2,416	172,012	855,400	11	194	49	15	17,940	7,586	6,974

employed, Number of Nets and Yards of Gill Fets, in the Province of Ontario
1872—*Concluded.*

Sciæcos, brls.	Maskinonge, brls.	Pike and Bass, brls.	Pickarel, brls.	Coarse fish, brls.	Total No. of barrels of Fish.	Value.		Total Value.	Where disposed of.	Remarks.
						Fresh.	Pickled.			
.....					100	.....	600	690	.....	Indians.
.....					41	.....	246	246	United States.	
.....					131	.....	785	785	do	
.....					510	.....	3,060	3,060	do	
.....					60	.....	360	360	Hudson's Bay	
.....					1,061	.....	6,006	6,006	Co. Posts...	.....
.....			70	.....	70	.....	210	210	Ontario	
.....					125	.....	750	750	United States.	
.....					212	.....	1,272	1,272	Hudson's Bay	
.....					43	.....	258	258	Co. Posts...	
.....					493	.....	2,678	2,678	do	.....
.....					93	.....	738	738	do	.....
.....					237	.....	1,422	1,422	Ontario	.....
.....					236	.....	1,508	1,508	do	.....
218	8	1081	834	2,323	30,966	167,342	103,291	267,633		

APPENDIX L.

RECAPITULATION of the yield and value of the fisheries of the Province of Ontario, for the year 1872.

KINDS OF FISH.	QUANTITY IN BARRELS.	RATE PER BARREL.	VALUE.
White Fish.....	17,940	\$ 8	\$ 143,520
Trout	7,586	8	60,688
Herring	6,974	6	41,844
Sciscos	218	6	1,308
Maskinonge	8	13	104
Pike and Bass	1,081	6	6,486
Pickarel.....	834	5	4,170
Coarse Fish	2,325	4 10	9,513
Totals	36,966		267,633

APPENDIX M.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF ONTARIO, FOR THE SEASON OF 1872.

BROCKVILLE AND CORNWALL DIVISIONS.

JOHN MOONEY, *Overseer*.

JOHN WALLACE, }
HENRY HUNT, } *Guardians*.

Reference to Appendix L. shows a decrease in the yield of fish in this division. Thirty-five barrels of white fish were caught last season but more are reported to have been taken this year. Mr. Mooney accounts for this by the low state of the water in the St. Lawrence, and says that the River was four feet lower this year than it has been known to be for the past thirty years.

NEWCASTLE AND COBOURG DIVISIONS.

SAMUEL WILMOT, *Fishery Officer*.

JAMES H. CAMERON, *Overseer*.

A special report of the operations of Mr. Wilmot, who has charge of the Government Fish-breeding Establishment at Newcastle, will be found in Appendix H.

No report, statistics, or information of any kind has been received from Mr. Cameron during the year.

PRINCE EDWARD COUNTY DIVISION.

JOHN G. HICKS, }
WM. PLEWS, }
W. A. PALEN, } *Overseers*.
PETER HUFF, JUNR., }
JOSEPH PIERSON, }

Fishing has not been so good as usual in this division, there being a large decrease in the yield of white fish and trout. In some places the fishermen did not set a net, having become discouraged by the gradual falling off for the past two or three years. The opinion is gaining ground, however, that white fish are returning, and that stations recently unproductive, will soon regain their former prosperity. The following tabular statement compiled from the statistical returns of the fishery overseers, shows the yield of the division for the past two years :—

	1871.	1872.
White Fish, barrels.....	1,962	1,449
Trout, „	330	148

Herring, barrels	80	140
Pike and Bass, barrels.....	50	150
Pickrel, barrels.....		15
Coarse Fish, barrels.....	100	5
Total.....	2,522	1,907
Value.....	\$20,121	\$15,118

BAY OF QUINTE DIVISION.

CHARLES WILKINS, *Overseer.*

The yield in this division for the last two years is as follows :—

	1871	1872
White Fish, barrels.....	135	90
Herring, „	2,457	3,075
Coarse Fish, „		450

The decrease in the yield of white fish is very marked since 1870 ; being one third less this year than last. The overseer attributes this falling off to the high easterly winds which prevailed during a large part of the fishing season and which generally affected the catch. The increase in the yield of herring, however, more than compensates for the failure of white fish. The several kinds of coarse fish, such as pike, pickerel, bass, &c., are becoming of greater commercial importance, and the value of the catch amounted in the aggregate, to upwards of \$12,000 during the past year. They are caught with seines in the summer and fall months, and with nets through the ice in the winter. They are mostly sent to the United States markets fresh, and command good prices.

The inland lakes, where formerly parties from the United States stealthily fished and took their fish across the border to sell them, have been well watched, and this traffic stopped to a great extent. The fish taken by settlers in sections of the country adjacent to the inland lakes, are for domestic use. When the projected railways, opening up the country in rear of the Bay of Quinte, are built, the fish of these inland lakes will be more sought after, and form a considerable traffic. The completion of the fish slides in the Salmon and Moira Rivers enables the fish to ascend these streams, and they are now taken in larger numbers. The mill owners and manufacturers on the Trent and other Rivers in this division, will have, by another year, fish slides built in their dams, and the catch of the coarser grades of fish which frequent these streams will then be largely in excess of the present yield.

ERIE, NIAGARA, AND PART OF LAKE ONTARIO DIVISION.

JOHN W. KERR, *Overseer.*

The sub-divisions of this district, together with the yield and value of each, is as follows :—

	brls.	\$
1st. From Whitby Harbor to Bronte.....	858	7,036
2nd. „ Bronte to Port Dalhousie.....	774	6,692
3rd. „ Port Dalhousie to Queenston..	406	3,561
4th. „ Queenston to Port Ryerse.....	763	5,408
5th. „ Port Ryerse to Port Talbot....	808	6,125
Total.....	3,609	28,822

The figures below show the yield of the fisheries of this division for the past two years :—

	1871	1872
White Fish, barrels.....	675	850
Trout, „	316	166
Herring, „	589	592
Sciscos, „	179	219
Maskinonge, „	10	8
Pike and Bass, „	83	320
Pickarel, „	296	483
Coarse Fish, „	466	972
Total.....	2,614	3,610
Value.....	\$25,000	\$28,800

It will be seen that the yield of white fish is 25 per cent greater this year than last and that there has been a far greater percentage of increase in the coarser grades of fish, while the catch of salmon trout has declined 50 per cent. The total catch of fish of all grades this year exceeds that of 1871 by about 1,000 barrels, being 38 per cent increase, and equivalent in value to about \$4,000. The salmon streams between Whitby Harbor and Bronte comprise Lynd's Creek, Duffin's Creek, the Rouge, Highland Creek, and the Humber and Credit Rivers. Guardians were placed in charge of these streams during the months of October and November. In Lynd's Creek salmon were abundant, and they were noticed spawning in upwards of twenty different places. In Duffin's Creek there was a splendid run of salmon, the like of which has never been observed. Not fewer than one hundred and fifty salmon entered and spawned in this stream last fall, all of which were unusually large, several being over twenty pounds in weight. In the Rouge at a considerable distance from its mouth, two couples of salmon were observed on the spawning beds, none were seen during 1871 in this stream. No salmon were noticed in Highland Creek, owing, apparently, to the very low state of the water during the spawning season. A sand bar at the mouth of the creek also appears to impede the passage of fish. One large salmon was observed in the Humber River, none were seen in the Credit.

There was a very large catch of pike last year in the different localities frequented by salmon; this will tend greatly to the increase of salmon in the lake, the pike being a very voracious fish and feeding largely upon young fish, especially of the salmon kind.

The catch of blue back herring, of a very large size, was excellent for a few weeks during the fall at Toronto Island, and the fish brought remunerative prices. The yield of white fish at Niagara was better than in 1871, a great falling off has taken place in the catch of salmon trout, whilst a great increase is observable in herring and scisco gillnet fishing. At Burlington Beach seining for white fish proved a failure.

White fish gillnet fishing was an average one at Wynona, Jordan and Niagara, and prices fluctuated, owing to the discontinuance of the Niagara and Fort Erie Railway.

Fishing with seine and hook and line was good at Rond Eau, and at Dunnville in the Grand River.

Fall fishing in Lake Erie, between Rainham Centre and Port Ryerse was not so good as in 1871, the decrease being equivalent in quantity to twenty barrels and in value to \$200. This is to be attributed to rough weather and the low state of the water in Lake Erie; so low was the water last year that many of the small reefs which used to be the usual and favorite resorts of white fish to spawn, became exposed and bare. At Turkey Point, notwithstanding the low state of the water, the catch was fair and the market prices remunerative. At Long Point, fishing was carried on to a small extent last season. The purchase of this property by the Long Point Company has proved most beneficial to the various fisheries of Lake Erie; the fisheries have had rest, poachers have been kept off, and

the fishermen have reaped the benefit of protection. Very few pickerel made their appearance in Big Creek last spring, except during the close season.

Mr. George A. Lacey commenced operations in breeding speckled trout in the fall of 1869 at Hillsburg. He collected 5,000 trout ova out of which 3,000 were hatched; in 1870 he was able to place 20,000 young fry into the waters of the Credit River, and this last season he placed some 150,000 trout ova in hatching troughs, which commenced hatching out on Christmas Day. In November last Mr. W. Hull, of Erie Village, had 4,500 parent fish in his ponds, besides a quantity of ova in the breeding troughs. The speckled trout breeding establishment at Galt had 1,000 parent fish in the ponds last fall. The fishery laws were well observed in this division, the only offenders being three fishermen at Shoal Point, Lake Ontario, who were prosecuted as the law directs.

WOLFE AND AMHERST ISLANDS DIVISION.

P. KIEL, *Overseer*

Mr. Kiel reports:—"That during the summer months white fish were caught in great numbers on their favorite feeding grounds, and of good quality and size, many of them weighing from five to six pounds each. Canadian markets were well supplied during the whole year, the surplus being exported to the United States. The following is a statement of the yield for the past two years:—

	1871	1872
White Fish, barrels.....	299	310
Trout, "	300	554
Herring, "	3	12
Pike and Bass, "		77
Pickeel, "		27
Coarse Fish, "	167	166
Total.....	769	1,146
Value	\$6,823	\$8,310

The large increase in the yield of salmon trout is very satisfactory. Mr. Kiel attributes this increase to an efficient protection. Public opinion has changed, and very few fishermen now object to the proper enforcement of the fishery laws. The month of November being exceedingly stormy, there were no white fish caught; nevertheless, the fishermen generally are satisfied that they have made a profitable season's fishing.

ROND EAU DIVISION ON LAKE ERIE.

JOHN McMICHAEL, *Overseer*.

The catch has been very limited this year, nearly all the fish taken being caught during the spring. The fall weather was exceedingly boisterous and stormy, and the waters of the lake so rough that the fishermen were frequently unable to haul a seine or lift a pound net for two or three weeks together. One of the fishermen, after having made a few hauls with his seine, lost his boat in a storm and was prevented from procuring his usual supply of fish. The yield is as follows:—

White Fish.....	125 barrels.
Herring.....	124 "

Pike and Bass.....	30 barrels
Pickereel	79 "
Total.....	358
Value	\$1,936

No violation of the fishery laws are reported.

DETROIT RIVER AND WESTERN LAKE ERIE DIVISION.

EDWARD BOISMIER, *Overseer.*

This officer was appointed by Order in Council of 20th June 1872, on the demise of Mr. P. Marentette, the former Overseer. Fishermen seem to have had great success during the past season, as the following figures show. There were caught:—

	1871	1872
White Fish, barrels.....	1,498	2,993
Herring, " 		658
Pike and Bass, " 		93
Total.....	1,498	3,744
Value	\$14,438	\$42,333

This Overseer reports:—That he considers pound nets an obstruction to the propagation, as well as the cause of the destruction of great numbers, of white fish annually. They are usually raised once a day, and sometimes not for three or four days and often longer, on account of heavy winds. He regrets to say that white fish which are highly esteemed as an article of food, are being so persistently sought after, that at the present extravagant rate of fishing, both on the American and Canadian shores, they will be exterminated in ten years. Some understanding should be had with the American Government relative to the assimilation of regulations for the preservation of white fish. Pens which are built to keep fish for the winter market, should be so constructed as to have a small enclosure in them for the keeping of the first run of fish, separating them from those previously caught. Pounds should be cleaned out twice a year, say in April and September. The dead fishes in pens are the cause of many complaints on the part of people using the water of the river, who say with good reason that the water must be affected from this decayed animal matter. The enclosures of these pens should be kept open in two places when there are no fish in them, so as to allow a free current through the pen until the fishing season commences.

The owner of Fighting Island also bears evidence to the rapid diminution of white fish, which he attributes to extensive pound netting which, if not curtailed, must, according to his opinion, soon destroy the species in Lake Erie and the Detroit River. On the American side these pound nets are set out as far as four and five miles from the shore. It has been ascertained that on the American side of the Detroit River some \$8,000,000 of capital are invested in the white fish trade. Fishing with such a destructive engine as the pound net is fast destroying all kinds of fish, and undersized white fish are being caught in them in large numbers. Perch is also being destroyed very rapidly by pound nets, the mesh being too small to allow the young fish to escape. Undersized white fish are moreover worth very little, hence the greater injury to their propagation. It is stated that some few years since when large numbers of white fish were allowed to die in these pounds, the white fish of Lake Huron died in immense quantities; some disease having apparently spread among this finny tribe, on account of so much decaying matter being let loose from the pounds in the Detroit River.

SYDENHAM AND LAKE ST. CLAIR DIVISION.

F. McRAE, *Overseer.*

The value of the fisheries in this division for the year 1871 was \$8,065 ; last season it was \$8,255, shewing an increase in value of some \$200. To this may be added \$300, value of fish speared at the mouth of the Thames River, making a total increase in value of \$500.

GODERICH DIVISION.

A. C. McKINNON, *Overseer.*

This officer was appointed by Order in Council of 4th May 1872, with limits extending from Kettle Point to Point Clark on Lake Huron. The yield of fish in this district for the past year is:—

White Fish.....	3,329 barrels.
Trout	1,276 "
Herring.....	64 "
Pickarel.....	124 "
Coarse Fish.....	285 "
Total.....	5,078
Value	\$36,737

These fish have been sold partly in Canadian and partly in the American markets. The summer fishing especially was very good, and on the whole the fishermen have reaped a good harvest ; most of the fishing, however, was done before the very stormy and rough weather of the fall, when nearly one half of the nets in this division was destroyed, and some of the fishermen had the misfortune of having their fish-houses washed away with all their contents, by the water.

The fishery laws have been well observed during the past season, and no cases of violation are reported.

RIVER ST. CLAIR DIVISION.

S. A. MACVICAR, *Overseer.*

No returns have been received from this officer of the yield of fisheries in his division for the last three years.

SAUGEE DIVISION.

As it was impossible to obtain any information whatever respecting the yield of the fisheries in this division from Mr. Eastwood ; Overseer McKinnon of the adjoining (Goderich) district, was requested to procure such statistics of the yield, value, &c., of these fisheries as he could. He states that fishing was very fair, although the fishermen lost a great many of their nets.

The fishermen, however, from want of a proper person to enforce the fishery laws are fast destroying the fish, not allowing them to spawn, and killing them poll-mell on their spawning beds.

INDIAN PENINSULA DIVISION.

G. S. MILLER, *Overseer.*

The statistics of fisheries in this division are shown in detail in Appendix L., and are as follows for the past two years:—

	1871	1872
White Fish, barrels.....	501	850
Trout, "	644	440
Herring, "	30	

Sturgeon, barrels.....	30
Total.....	1,175 1,320
Value....	\$6,103 \$6,450

LAKE HURON AND GEORGIAN BAY DIVISION.

WILLIAM PLUMMER, *Overseer.*

The yield of the fisheries in this division for the past two years, is as follows :—

	1871	1872
White Fish, barrels.....	5,408	3,923
Trout, „	2,998	2,182
Pickarel, „	20	
Total.....	8,426	6,105
Value.....	\$50,536	\$42,735

These figures show a large falling off in the yield of last year compared with that of 1871. The Overseer also reports a less number of licenses issued. Last year there were 27 licenses issued to white men; this year 20. The decrease in the yield of fish has been in greater proportion. The catch would have been larger but for the stormy weather during the month of November, which was very destructive to nets. In some cases the fishermen not only lost their nets by the storms, but their boats also. The navigation closed so much earlier than usual, that in many cases the fish could not be removed from the fishing grounds, where they now remain to the great loss of the fishermen. The demand for trout and white fish has been good and prices ruled high, especially for those caught late in the season.

LAKE SUPERIOR DIVISION.

JOSEPH WILSON, *Overseer.*

The produce of fisheries in this division is slightly in excess of that of 1871. The following statement shows their yield and value for the past two years :—

	1871	1872
White Fish, barrels.....	2,054	1,958
Trout, „	846	1,252
Pickarel, „	160	70
Total.....	3,060	3,282
Value.....	\$16,122	\$19,384

This exhibits an increase in value of upwards of 25 per cent. Mr. Wilson reports that during the past season he visited all the fishing stations in his division, but was prevented from visiting them during the spawning season, on account of his boat not being seaworthy. No infractions of the fishery law occurred during the year. The summer fishing was good, while that of the fall was almost a failure, by reason of the continued heavy gales. Great loss has been sustained by the fishermen, some boats losing nearly all their nets. The benefit of the extension of the close season for speckled trout continues to be felt by the increase which has taken place in the catch of this fish. The St. Mary's Rapids, fishery has much improved during the past season. In August last Mr. Wilson

visited Moose Factory, Hudson's Bay, and obtained valuable information respecting the fish in the inland lakes and rivers on the route. Speckled trout, so far as he could learn, have not been seen beyond the Height of Land. In the lakes on both sides of the Height of Land, white fish and lake trout are found in great abundance. In Moose River there are only two specimens of fish, viz :—a small species of pike, and a small fish of the size and appearance of a Herring. They make pyramids of small stones in the river, on which they deposit their spawn. In James' Bay there are very few fish, and only of an inferior quality, viz :—a species of white fish averaging half a pound in weight, a few seals and porpoises also frequent the bay. There were issued twenty special permits during the past year by this officer to citizens of the United States, to angle within the limits of this division and especially in Nepigon River.

SIMCOE DIVISION.

ALEX. MCKENZIE, *Overseer.*

Fishing in this district is steadily improving. The yield last season was slightly in excess of that of 1871, as may be seen by the following figures :—

	1871	1872
White Fish, barrels.....	6	60
Trout, ".....	77	46
Herring, ".....	15	7
Total.....	98	113
Value.....	\$1,214	\$1,010

One of the fishermen on Lake Simcoe lost all his nets by the heavy south-west gales last spring. The yield of herring at the Narrows was small this season, owing to the bridge building on the line of the Northern and Midland Railway. Mr. McKenzie states that were station No. 6 properly fished, it would yield the value of \$1,000 annually. It is now fished by Indians who catch only some \$160 worth of fish.

RIDEAU DIVISION.

C. C. JOYNT, *Guardian.*

In this division which comprises the Rideau River and Lake, there are 104 small boats, 296 gill nets, and 300 hoop nets. The statistics of the yield are tabulated in Appendix L. Besides herring, pike, bass, pickerel and other coarse grades of fish, 115 salmon are reported to have been caught, averaging some 15 lbs; 2 salmon were caught weighing 25 and 27 pounds each. This Guardian states that he encountered much opposition to the proper enforcement of the fishery laws, and that it is with great difficulty that the fishermen can be persuaded to give correct returns of their fishing. The fish which were heretofore wantonly destroyed during the spawning season, have last year been protected, and it is to be expected that an increase of fish will be the result.

APPENDIX N.

REPORT OF W. H. VENNING, INSPECTOR OF FISHERIES FOR NOVA SCOTIA AND NEW BRUNSWICK.

HON. P. MITCHELL,
Minister Marine and Fisheries.

SIR,—The reports and returns from the local officers continue to show a very satisfactory state of the Fisheries in both Provinces. Though in some Counties, owing to local causes, the catch has fallen somewhat below that of last year, yet in others it has considerably increased, so that on the whole, the returns are somewhat above an average.

The *Fisheries Act*, as it becomes better understood, is also becoming better appreciated, and there is now growing an improved feeling on the part of the fishermen, as well as on that of the general public, which makes the duties of Fishery Officers less onerous and more easily performed.

Restigouche County.—The opening of the season for salmon fishing in this County, was marked by very high freshets, with wet and stormy weather, which prevented the fishermen from getting out their nets as early as was desirable, but still the catch has been above an average. Overseer Ferguson states “that so many salmon were hardly ever known to go up the rivers, the first run of fish having ascended before the nets could be got out. There is more disposition on the part of the fishermen to observe the law respecting the close time, and I have this season had less cause to impose penalties on this account. Many of the fishermen in my district raised their nets before the end of the season, to work on the Intercolonial Railroad, and from the same cause a number of stands was not fished.” During the last two seasons attention has been directed to the catch and cure of lobsters, which are very plentiful on the shores of this County, and there is every prospect that this fishery will become extensive and lucrative. I must again urge the importance of prohibiting the setting of nets from the islands, middle lands and shoals, at the head of tidewater in the Restigouche River. The interest of the fisheries imperatively call for this measure.

Gloucester County.—James Hickson, Esq., the active and intelligent Overseer of the upper part of this County reports as follows:—“In comparing the catch of salmon for 1872 with that of 1871, I find a falling off of about 10,000 lbs. This is partly owing to our fishermen not attending to the fisheries as in former seasons, on account of the high wages given on the Intercolonial Railway works, and partly to the very stormy season we have had, with prevailing east winds, which are very injurious to our coast salmon fisheries, as well as to all others in our bay. The River Nepissiguit was as well stocked with salmon this season as in any former year, though the angling was not generally good, on account of the height of the freshets, caused by continual heavy rains. In fact the river was not in a fit state for angling during the whole summer, with the exception of part of July, when No. 4 Division furnished as good fishing as could be desired, Messrs. Paterson and Bonner taking 104 salmon and 136 grilse.

“The Tête-a-gauche River is improving rapidly; there have been over 100 salmon and grilse taken with the fly this season between the dam and the mouth of the river; and I should suggest the propriety of appointing Mr. William Rodgers, who has charge of the mill and the salmon pass, as Warden from the dam to the mouth. I am convinced that his appointment would have a good result in improving the fishery on that stream

"I am happy to state that I have had no serious violation of the law this season, though there have been some complaints of trespass on No. 1 Division of Nipissiguit River, chiefly by the land owners, who seem determined to dispute the right of the Department to prevent them angling in front of their own lands."

Justinian Savoy, Esq., Overseer of the Lower District of Gloucester County, says:—
 "As to our river fishery, the catch has been somewhat above the average of past years, and with the present system of vigilant protection it must continue steadily to improve. It is absolutely necessary that the spawning grounds be visited twice a week during the spawning season, by the Overseer or some other authorized person, as any relaxation of vigilance would again open the door to poachers, and thereby greatly damage our fisheries. As regards our coast fisheries the catch has been a fair average one, and better than that of last season. Codfish and mackerel gave a good catch but that of herring was very little better than a failure in my district, although in the neighbouring districts of Caraquet and Shippegan they were taken in abundance. Our fishermen consider the improvement on the catch of codfish and mackerel due in a great measure to the protection of our inshore fisheries from the intrusion of American fishermen, which, in past years, has been very detrimental to the interests of our own fishermen. A few years ago American schooners came on our coast and engaged in seining quite near the shore with large purse seines; their object was to catch mackerel, although they invariably used to haul in herring, codfish, gaspereaux, and various other kinds of fish as well, all of which they would throw overboard, being prepared to save and cure only mackerel. It can be easily understood how destructive these operations were to our fisheries, as in the vicinity where these parties seined, great quantities of dead fish might be seen floating about on the surface of the water. If the Americans are again allowed to participate in our inshore fishing it is to be hoped that some restraint will be put on their using these huge engines of destruction in the shape of purse seines."

Northumberland County.—The reports and returns from the Overseers in this County show a falling off in the catch during last season. This is accounted for by the strong gales which prevailed in Miramichi Bay, during the spring, and prevented the fishermen from getting their nets set in time to meet the first run of fish. Overseer Williston attributes the falling off to this cause, and Overseer Savoy says:—"Our bay fishing yielded a poor catch this year. The herring fishing was below the average, as, owing to the late spring and stormy weather, fewer fish than usual entered the bay, salmon and codfish are less than an average, the weather being very unfavorable all summer for these pursuits." Overseer Russell writes:—"I regret to state there has been a marked falling off in the salmon fishing this summer, caused in a great measure by the excessive fishing all round Portage Island and on the Horse Shoe Bar, which will require to be curtailed, otherwise the once valuable salmon fishery in the Miramichi River will be destroyed. Fishing for spring herring has not been prosecuted as in former years, which accounts for the short catch. The small catch in the fall was caused by boisterous weather, which prevented them from being taken in such quantities as in former seasons." Overseer Perley says:—"I have to inform you that the catch of salmon has been smaller than last year. The chief cause of this I believe to be the great number of nets at the entrance of the river, as I intimated last year, and unless there is a great change made, our river fishery, as regards salmon, will soon be among the things that were. There has been a great number of grise in the river this year, and if the nets were shortened in the lower district, I think the salmon fishing would yet improve to something like what it formerly was. I do not think the salmon are decreasing, but such a blockade of nets in the mouth, from the first to the last of the fishing season, prevents them from getting up the river. The catch of alewives was rather better than last year. I think this fish is increasing; bass also is increasing; and shad are coming back to the river, although the catch has been small this season." Overseer Hogan writes to the same effect, but adds that the bass fishing in his district has been highly productive. Overseer Parker says that the catch of salmon in his district has been far below the average, but after the nets were taken up at the mouth of the river there was a very large run of salmon, which the con-

tinuous freshets protected and allowed to ascend to their spawning grounds. He reports grilse more plentiful than for many years, which gives good promise for the future.

Kent County.—The returns from this County show about an average catch, although the season was an unfavorable one for the fisherman's pursuit. Overseer Sutherland reports the catch of alewives as very small, which those engaged in the fishery attribute to stream-driving and other lumbering operations, combined with sawdust and rubbish from the mills. He adds: "The lobster fishery has not been so good as it was last year, owing to high winds and a generally stormy season, there are now five large establishments in the County for the catch and cure of this shell-fish, and two more will probably be added next season. They are mostly put up in hermetically sealed cans, but some are sent fresh to the United States packed in ice. The catch of salmon has been small, and all has been sent to the Boston market in ice. There have not been many oysters raked in Richibucto River, the quality being inferior to those found in other places. The facilities in this County for catching and curing fish of all kinds are equal to those of any place in the Dominion. Cod, ling, herring and mackerel, abound all along its coast, and the business requires only to be prosecuted with vigor to be highly remunerative."

Charles Cormier, Esq., Overseer of the Lower District of this County writes:—"The salmon fishery has yielded nearly an average catch, and many more would have been caught had it not been for the storms and cold weather in the early part of the fishing season, in consequence of which many nets were lost. Mackerel were larger than last year, and more plentiful, but not a large quantity was taken, as only a few people pursued this fishery. Spring herrings were not largely caught this season, owing to a continuation of northerly storms and cold weather, which seriously interfered with fishing operations; but the take of fall herring was considerably larger than that of last year. Cod fishing has yielded above an average take, and alewives about the same as last year. Smelts are abundant in our rivers, and are a valuable resource for our fishermen during the winter season. Lobsters are caught in large quantities, and are rapidly becoming a most important item of our fishing trade. The number of men employed in this fishery is fast increasing. Oysters are taken in large quantities in Buctouche and Cocaigne. The enforcement of the close season is having a good effect upon the beds which I think are now improving."

Westmorland County.—The fisheries in this County are not pursued with much vigor, the catch being mostly for home consumption. Overseer Deacon writes:—"As but little is done in exporting fish from this County, I cannot give you anything like an accurate return of the quantities taken. A large number of herrings are caught and consumed in different localities, in this and King's County. Although gaspereaux abound in our rivers very few are taken. Mackerel were plentiful in our harbor last season, but few were caught and those were used for home consumption. Smelts were taken in large quantities and shipped fresh to the Boston market. Although salmon had almost entirely deserted our river, they are now seen in considerable numbers ascending the Shediac and its tributaries. The opening of a passage through Gilbert's Mill Dam has enabled them to reach their old spawning grounds, and there is no doubt but they will again be plentiful. As many as thirty or forty have been seen in the upper waters. As for the oysters in our harbor I can say but little, they are fast becoming extinct, and very few are now taken: I would once more strongly urge the necessity of leasing the harbor for oyster farming, nothing but this will preserve our valuable bi-valve, the best probably in the world."

Albert County.—The shad fishery in this County shows a decrease with the returns of last year, which Overseer Cormia attributes to the lateness of the spring. The salmon fishery is improving in the lower part of the County, but in the Petitcodiac and Couverdale Rivers the increase is not so visible. The death of John Alcorn, Esq., the intelligent and active Overseer of this County, has left me without a detailed report of the fisheries in the several localities. I beg to call your attention to the necessity of appointing an active man as his successor in time to enter upon his duties with the commencement of next spring's fishing.

Victoria County.—Overseer McCluskey reports of this County as follows :—"The past season has been favorable for salmon in this district, and as the continued rains kept the water almost at freshet height, there was but little chance for poaching with the spear, which is the great offence on the Tobique River and its tributaries. I think I may safely say that the number of salmon has increased three-fold during the last three years I regret still to have to complain of the manner in which resident Magistrates treat complaints made by the Wardens against parties who persist in violating the law by spearing, which it is almost impossible to prevent while Magistrates are so remiss in their duty."

"With regard to the obstruction at the mouth of Salmon River, I have to state that the water continued so high during the Summer and Fall, that it was impossible to do anything that would be of permanent benefit. I shall take advantage of the first favorable opportunity during the coming season, and have the work well performed."

Carleton County.—The river fisheries in this county have not been successful, owing to the high freshets, and great quantity of timber and logs running in the river all Summer, which prevented nets from being set during the best fishing season. There was a fine run of salmon in June, July and August, but comparatively few were taken, and only for home consumption. Overseer Harrison reports that the law has been generally observed, and that he has not been obliged to impose any fines during the season. The great increase in lumber operations on the St. John River, will, I fear, continue to operate badly for the up river fishermen, while those lower down will be the gainers, as larger numbers of fish will reach their spawning grounds and keep up the stock.

York County.—Overseer Macpherson reports as follows :—"During the past season I have visited the principal places on the River St. John and its tributaries in the County of York, and from the most reliable information I could obtain, I am of opinion that a much larger catch of salmon has taken place in this district during the past season, than in any season for the last twenty years. The fishing continues about two months, and the parties engaged in it are farmers and others along the banks of the rivers. There are no fish cured for exportation, as all are consumed in the neighborhood or sent to the nearest home market. The catch of shad has also been larger than usual, I have no means of ascertaining the actual amount taken, as they are disposed of in the same manner as the salmon. Trout have largely increased in the lakes and small streams, emptying into the St. John. I have not been obliged to impose any fines, as I found all parties willing to carry out my instructions and to respect the law." Overseer Cameron reports that he never saw so many fish in the South West Miramichi, as got up last fall, and as high water protected them, there is every reason to expect the best results. Angling in the upper waters of this river was better last season than it has been for many years,—over 500 fish having been taken with rod and line. This improvement shows conclusively the beneficial results of leasing the angling portions of salmon rivers, and I cannot too strongly urge the general adoption of this protective measure. The lessee, Mr. Robertson, has spared neither trouble nor expense in protecting his leasehold, and the result is most satisfactory, giving every reason to hope that this once famous angling river will soon be restored to its former well-stocked state.

Sunbury and Queen's Counties.—Overseer Hoben reports that the season has not yielded an average return for salmon, but that shad and gaspereaux have been as plentiful as usual. He says :—"I have endeavoured to ascertain the number of salmon annually caught, at the most important stations on the river, during the last fifteen years. I find that in 1856 and 1857 the take was the smallest ever known; that in 1860 it was the largest; that since the last mentioned year there has been a gradual falling off, which the fishermen attribute to the excessive fishing in the bay and harbor; and I have no doubt they are correct. I have no violations of the law to report, as a general thing people respect the regulations and show every disposition to keep within their provisions."

King's County.—Overseer Gosline reports :—"In visiting the different streams of this County, I found that while some had improved, others show but few encouraging signs, especially those in which lumbering and stream-driving are largely prosecuted."

"In the River Kennebecasis especially these lumbering operations seriously disturb the spawning beds, and no doubt destroy large quantities of ova, while the jams which form on the rapids prevent the fish ascending until the autumn rains raise the river and clear it from these obstructions. It is a matter of great regret that the time of setting apart the streams in this County for natural propagation was not prolonged, as urged in my last report, for although there is a visible improvement in all of them, the stock of fish is not yet sufficiently large to stand the drain of general fishing, and unless this measure is continued, I fear that no great improvement will be secured."

St. John County.—The returns from this county show a considerable increase over those for 1871. Overseer Godard reports.—"In the early part of the season I visited the fishing stations on the St. John, between Indiantown and Bellisle Bay, and regulated the setting of nets to the limits prescribed by law. I found here, as in other localities, that land owners claim exclusive right not only to set nets in front of their property, but to set them in any manner they please, and they consider any interference as an infringement on their rights. I have kept under notice the mills in my district, on the St. John River, in the parishes of Portland and Lancaster, and have found ample means provided to dispose of sawdust and rubbish, without injury to the fisheries. The returns show a falling off in the yield of salmon and shad, but the increase in other kinds of fish, and the better price obtained for gaspereaux, make the aggregate value of the season's catch exceed that of last year. The value of boats and material would appear to be large in comparison to the value of the yield; but it must be remembered that these are not renewed annually. Schooners last for ten or twelve years, boats from five to eight, while the loss on nets is from 50 to 75 per cent. In the Eastern part of the County the law respecting sawdust is still evaded, and the appointment of an officer residing in St. Martins is much needed, as urged in my last report. The distance from St. John is too great to allow me to give this part of the County the needed supervision without a resident warden."

Charlotte County.—The reports from this County, especially from the St. Croix district continue to be most satisfactory. Overseer Curran writes as follows:—"It gives me great pleasure to be able to state that the increase of fish in this district is far beyond the most sanguine expectations of the people on the St. Croix. Many who predicted that we never could have the fish in our rivers as they were in former years, are now convinced that with proper care for a few years more they can be restocked to any extent. The water was so high all summer that salmon could get up without any hindrance, and several were seen above the upper mills, but the Messrs Shaw Brothers at St. Croix Village, built a bark mill over the fishway there which prevents the fish getting into the lakes. I have notified the American Commissioners, who will have this obstruction removed. The increase of alewives in the Denis Stream far surpasses that of any former year. As the close time expired last May, I allowed people to fish two days in the week, on Tuesdays and Fridays. This stream runs through a densely settled part of the county, and if fishing were allowed at all times, the stock would soon be so reduced, that all the advantage gained by the three years close time would soon be lost. Owing to the strict watch kept on them, no violation of the regulations has been committed, as the settlers got all the fish they wanted for their own use. It is impossible to ascertain the quantity caught, as there were over a hundred persons fishing on the open days. In the tideway on the river there has been a decided improvement in the quantity of fish caught in the weirs. There were more herring, haddock and small codfish caught in the St. Croix this year than for a number of years previously. Lobsters in large quantities were taken in the river and in Oak Bay which are preserved in the establishment at St. Andrews. Some close time should be provided for the protection of this shell fish. I would also recommend that a fish-pass be provided at Salmon Falls, as the place is almost impassable for alewives which congregate at the foot in large numbers, but owing to the freshet being always high in the spring, they cannot get over the fall. The mill-owners on the New Brunswick side of the river, have generally observed the law re-

garding mill rubbish and the attention of the American Commissioners has been directed to the necessity of a more strict supervision of those on the American side."

Overseer Cunningham of Passamaquoddy district reports as follows :—"I have pleasure in informing you that returns of fish of all kinds have increased very materially over those of last year, and also that there has been a marked improvement in the prices obtained. A large business has been done in haddock and herrings packed fresh in ice, and sent to Portland and Boston by steamer, bringing better prices than if cured in the usual way. Lobster fishing in the bay has been good; most of these have been canned at the curing establishment of Mr. Hartt, in St. Andrews, but a considerable number have been sent fresh in ice to Portland and Boston. A number of salmon have been caught in a weir at Sandy Point, St. Andrews, showing that this fish is again returning to the St. Croix. The good result of fishways and protection on this important river, leads me to hope the same measure will be adopted on the Digdeguash River, which formerly abounded in salmon, shad and gaspereaux." Overseer Cunningham calls attention to the arduous nature of his duties, being engaged in winter as well as in summer, and asks that his present small salary be increased to the amount paid to other Overseers in less difficult districts. As this request is a reasonable one, and as I think him well entitled to the increase, I beg for his case your favorable consideration.

Overseer W. B. McLaughlin of Grand Manan sends quite a full report of this important district, the substance of which I will give in his own words. He says :—"The various kinds of fish frequenting the waters of Grand Manan have been abundant, and as a natural consequence the catch has been very much better than in former years, the returns are under rather than over the full catch, and were it not for the continued low prices of smoked and pickled herrings in the markets of the United States, our fishermen would soon become wealthy. Although prices have ruled low and salt has been exorbitant, yet, owing to certain fortuitous circumstances, the fisheries have been remunerative, and peace and plenty continue to abide in the homes of our fishermen. Among the circumstances alluded to above, is the enhanced value of Hake-sounds and Cod liver oil,—staple articles of export at North Head, and the recent discovery of most excellent lobster fisheries in Seal Cove and Southern Head, extending to Grand Harbor, to which the fishermen in the vicinity have turned their attention during the past season. The lobster factories at Grand Harbor and in Seal Cove have exported to England 28,800 cans, and five large smacks running to and fro, between Grand Manan and parts in the State of Maine, have carried not less than 700 tons of live lobsters, for which our fishermen obtain on the spot \$15 per ton, making the aggregate sales resulting from the year's labor amount to the respectable sum of \$189,139. The abundance of line fish, such as cod, pollock, hake, halibut, &c., and their marked increase in our inshore waters, can be accounted for only by the immense schools of herrings of all sizes, swarming in these waters, the result, no doubt, of the protection of the spawning grounds. Since the expiration of the close time at Southern Head, Seal Cove Sound, a fine bay containing some thousands of acres, has been literally *crammed* with large fall herrings, but from the unaccountably low price of pickled herrings in the markets of the United States, very few fishing vessels have been on the ground this fall, and resident fishermen have taken them only for the purpose of bait, which is sold to American fishing vessels; some forty of which have obtained their bait at Seal Cove within the last month, I have seen fifteen sail at a time waiting for bait, the supplying of which our fishermen find to be profitable, and I regret that they will be deprived of this resource when, under the Washington Treaty, American fishermen are admitted to our inshore fisheries. The quantity of fish taken in my district by non-residents is twice that taken by resident fishermen, and yet there is no perceptible diminution of the supply, for while I write fish are as plentiful as ever both at North and South Heads and at White Head Island. No fines or forfeitures have been collected the past season for the reason that the law has been well observed, the fishermen having learnt by seizure and confiscation of their property during the first two years of my incumbency, that the law would be enforced at all hazards. I have heard of but one instance in which gurry has been deposited on fishing grounds in con-

"travention of law, and that offence was committed by a non-resident, whose name I could not learn.

"These cheering results have been obtained only by constant vigilance, and by the moral aid given by Mr. E. Gaskill and other gentlemen at North Head and Grand Harbor, assisted by frequent visits from Her Majesty's Steamship *Britomart*, Commander Basil Cochrane. Neither the intense fogs of the Bay of Fundy, nor the intricate navigation prevented this vigilant Commander from cruising in the broken waters of my district, and frequently visiting the spawning grounds, and I am satisfied that to these frequent visits I am indebted for the preservation of my boat, and the personal safety of myself and men. Although lobster fishing has been successfully prosecuted in these waters for more than fifteen years, the grounds have never been overfished until the past year. As the demand for this shell-fish is fast increasing, and the fisheries in the neighboring States are becoming exhausted by overfishing, American manufacturers are constantly seeking new sources of supply, and during the past year the waters in my district have been fished to an excessive extent. During the months of August and September the lobster comes inshore to cast its shell, and is then not fit for food. Some regulations to prevent their being taken and to protect them during their spawning time, have now become absolutely necessary. Your mention of this matter in your last annual report meets with the approval of the majority of fishermen in my district, and I hope your recommendation will not be overlooked. The frequent scarcity during the spawning season of herring for bait in the Bay of Fundy, and the high prices then paid for them by Americans, are strong inducements for poaching on the spawning grounds. During the last two years treaty stipulations have been generally observed by American fishermen, and our own people have been deterred from violating the law; but when American vessels are admitted to our inshore fisheries, the small force at my command will, I fear, be inadequate to its protection; I would therefore suggest that measures be taken to provide additional assistance should such be needed, and to ensure the presence of an armed vessel in the neighborhood of the spawning ground during the whole of the close time."

The following report, compiled from the returns received from the County Overseers of Nova Scotia, has been furnished by W. H. Rogers, Esq., the Fishery Officer for that Province.

The fisheries of this Province, as shown by the returns, have during the past year amply rewarded those engaged in the business. The small falling off in the quantity taken may be attributed chiefly to the facts that higher wages have ruled in this Province for labor in all departments, and many of those who formerly followed fishing, have gone into other occupations, and that last year afforded an extraordinary catch of mackerel. It will be observed that the principal falling off is in this item. The sudden fall in the price of fresh salmon which took place during the past season, caused by large importation by rail of this fish from the Pacific Coast, discouraged our people from pursuing that fishery as closely as they otherwise would have done; still the catch is considerably in excess of last year, showing a gradual increase, year by year, which no doubt results from the protection afforded since Confederation took effect. It is very desirable that Overseers should be better paid if it can be done. A little more money spent in this direction will have a very beneficial effect on the fisheries, because, unless men are fairly paid, they will not work, and the business under their charge must suffer.

Cumberland County.—James King, Esq., the Overseer for the Western district, says:—"I having been in office but a short time and the fishing being principally over before my appointment, I am not in a position to say as much as if I had been in office during the whole of the fishing, I have spent considerable time and taken some pains to inform myself as to the state of the fisheries within the section under my supervision; I have personally examined every river in the district to which fish of any kind resort for spawning, and also the mill-dams, fishways and stations for shore fishing. I find that there are about seventy miles of sea-shore noted for cod, pollack, hake, halibut, salmon and herrings, and other parts of the district are frequented by shad and alewives. The

"cod and halibut fisheries have failed very largely within the last few years, owing first to the practice of trawl fishing, as this mode takes all the large seed fish at the bottom, and there are general complaints among the inhabitants from one end of the district to the other against this practice. The parties who follow this kind of fishing live in other parts of the Province. Gurry grounds established by law are not known in the district and nearly all the gurry has been thrown into the water for some years, and weirs are not provided with proper means of escape for small fish; these are some of the causes of a general failure of all kinds of fish in this section.

"Shad are caught about the head of the bay; these fish have failed some in quantity and largely in quality for some years, owing to the water being fouled by dead fish and gurry, added to this the nets used in their capture are one fifth less in the mesh of late years than formerly. Salmon were formerly plentiful in this section, but owing to the destruction practised on their spawning grounds they have become scarce of late years; yet with proper protection they may still be largely increased. Salmon visit the following rivers for the purpose of spawning viz: Maecan, Mill Village or Parsboro, Apple River, Dilligent River, Ramshead River and Fox River. The last four are entirely without protection."

Overseer Patton has not sent me any report this year, but Warden Rindress writes that, "The catch of alewives is small this year in consequence of the fishing season being so late, the fishermen lifted their nets when the river was alive with alewives in order to attend to the summer herring fishing. The shad fisheries were not any better than last year as to quantity, while the quality is very much inferior. Salmon are quite plentiful in the rivers in this county, and it is hoped that in two or three years more they will be even abundant."

Colchester County.—William Blair, Esq., Overseer for South Colchester, reports as follows:—"The salmon are increasing very rapidly in all the rivers in this district and are a great temptation to poachers. I have not succeeded in imposing any fines this season. I have some three or four cases under consideration, but as yet have not succeeded in getting sufficient proof to convict the offenders. The gaspereaux fisheries in Shubenacadie River are a total failure on account of the locks that have been constructed between the lakes for canal purposes, which prevent the fish from getting up to their original spawning grounds. These locks are in Halifax County. The salmon fishermen of the bay are making money rapidly; this fishing continues after the shad fishing is over. Although some parties are determined to evade the law, yet I know good is being done and much can be done yet."

James W. Davison, Overseer of the Northern district, reports as follows:—"The district over which I have been appointed extends a distance of forty miles along the north coast of the Cobequid Bay, where the tide ebbs and flows, in some places, two miles from high to low water, leaving that distance a bare flat at low water. There are a number of rivers emptying into this bay, seven of which are frequented by salmon. The principal of these are the Portauquique, Economy, and Folly Rivers. The principal fishery is that of shad, which is followed all along the coast during the fishing season; it is carried on by means of brush weirs, which are set on the coast at low tide, at an average of three-quarters of a mile from high water. There are thirty-five of these weirs in my district, the average length being five hundred and twenty-seven fathoms. Boats with drift nets are also largely employed, in which quite an amount of property is invested. There are ninety-one boats, each having about three hundred and fifty fathoms of net. The length of the season in which the boats are usually engaged is about two months; the season for weirs is longer, lasting about four months, but they require attention only at low tide. I am sorry to have to report a falling off in this fishery this season, which is attributed to adverse winds. The cod taken in this district are caught early in the spring, and are entirely for home consumption. Shad and salmon are chiefly exported to the United States.

I have endeavored to have suitable gates put in the weirs, and have to a great extent, succeeded. Next season I hope to have this done to my entire satisfaction. The rivers

in this district are all more or less obstructed by mill dams. In some cases improvement is necessary in the fish-ladders, which I hope to have made next season."

Hants County.—Timothy B. O'Brien, Esq., the officer in charge of the Eastern district of this county says:—"I have but a meagre report to make regarding the fisheries of my section of the County during the past season, in comparison with previous ones. I am sorry to inform you that there was a decrease of at least one-third, and the fish taken were of an inferior quality; but fortunately for those engaged in this branch of industry the prices realized were fully as good as those of the previous year. The laws, I am happy to state, have been pretty generally observed, but of course there have been some attempted violations. At the commencement of the season some of the fishermen between Noel and Walton refused to place proper gates in their weirs, but on my threatening them with the full penalties of the law they provided suitable gates and no further trouble resulted. The fishermen generally acknowledge the utility of the fishery laws and believe that if they are properly carried into effect great benefits will result."

Kings County.—John E. Starr, Esq., the Overseer for this County reports as follows:—"I am sorry to report that my returns are considerably less than for several years past, in consequence of the almost total failure of the shad fishing, which is usually by far the most important branch of the fisheries of this County; but from some cause very few fish appear to have visited the Bay of Fundy or Minas Basin the past summer, and what have been taken are very inferior in quality. Herrings, however, have been abundant and fat, and in Medford, Pereaux and Scott's Bay, large quantities have been smoked; cured in this way they meet with a ready sale at remunerative price. But in many places on the bay shore where the fishermen have never been in the habit of smoking their herrings they appear to have been discouraged from attempting to catch many in consequence of the high price of salt, and small prices realized for the fish caught the previous season. Line fishing has been more successful and nearly double the catch of last year is reported. The fishing in the Gaspereaux River has not been as good as usual, owing to the scarcity of alewives. A good deal of jealousy exists here between the fishermen on the lower part of the river and those farther up. The regulations allow drift nets in the mouth of the river as far up as the lower bridge, which, the fishermen above are very positive frighten away the fish, driving them back into the basin; while the drift men as stoutly declare that the obstructions above destroy the fishing. There is much truth in what each says in regard to the other, and there can be no doubt that the river is over fished. The water being high in the spring, a fair number of spawning fish succeeded in finding their way up to the lakes, and an unusual number of young ones went down this autumn. The dam built across this river by Messrs Benjamin & Co., is provided with a fish ladder of the most approved description; the foot of the ladder being at the bottom of the dam, the top or head of it up in the pond above. There appears to have been quite as many salmon as usual in this river, and a good many illegal traps are used in catching them. Those most common are a sort of net called a fyke, which is used in connection with a wall of some sort; being set at night and carefully hidden from view at the break of day, they are difficult to discover. I found one of these fykes set in broad daylight, and I hope by a personal supervision of this river to be able to abate this nuisance hereafter. I visited the head waters of the Annapolis River and found that several saw mills were allowing sawdust to fall into the river. I gave the owners notice to make preparations to save it before the sawing for the autumn commenced which they promised to do."

Annapolis County.—W. T. Carty, Esq., says:—"Salmon are decidedly on the increase in the main river, and I trust very soon to see the fruits of my labor in all the streams where salmon formerly abounded. The fishways are in good condition except at Lawrence town and on Nictaux River, both of which dams are yet unfinished. I have had to prosecute several mill owners for wilfully putting sawdust and rubbish into the streams. The bay shore fishing differs from last year, the fishermen have mostly left off fishing for herring as the products barely paid expenses last year. Some 1,500 barrels were not disposed of as late as last June, but hake, halibut and cod have exceeded last year's

"catch. There is the same amount of fishing material as last year, but a great part of it has not been used this season."

Digby County.—James H. Morehouse, Esq., the Overseer for this County says:—"I am happy to report a decided improvement at all the stations where deep sea fishing is carried on; not only has the yield been in excess of last year, but prices have ruled considerably higher, the consequence of which is not only comfort in the home of the fisherman, but a stimulus to further improve his circumstances. This is observable in the improved models and outfits in the fishing craft, as well as in their increased number at several of the stations. Digby Town, which last year had but two vessels employed in fishing, had four this season, and has now two more building. Hake, which a few years ago were considered almost worthless, are now eagerly pursued and the taking of these fish has become quite a lucrative business; the sounds and oil being about equal in value to the fish itself. But while we are thankful for the success which has attended this branch of our fishing interest, it is with profound regret that we repeat the record of last year, viz.: the total failure of the mackerel and shad fisheries at St. Mary's Bay and the herring fishery in Digby Basin. As the only means in my opinion of resuscitating the shad fishery, I would again respectfully urge the necessity of restricting the building of weirs at the head of St. Mary's Bay until after the 20th June in each year, this would save the spring shad which enter the bay for spawning early in May. In my report last year, I fully explained what seemed to me to be the cause of the failure of the herring fishery in Digby Basin. From further observation this year I am fully confirmed in these views, as well as in the means I then recommended to effect its restoration."

"Our river fisheries show encouraging signs of improvement. Trout, alewives, smelt and frost-fish, are again showing themselves in waters that had long been forsaken. At Salmon River we have signs of steady progress; the yield of salmon being considerably larger than that of last year. As all the other rivers in this County are obstructed by natural barriers over which fish cannot pass, we cannot reasonably expect much improvement in these, but it is a matter of regret that such splendid rivers as Sissaboo and Montengan unquestionably are, should be allowed to be unproductive, when for a trifling sum they could be made to add so much to the comfort of the people, and ultimately become large contributors to the resources of the country."

Yarmouth County.—T. B. Crosby, Esq., the Officer in charge of this County, says:—"In forwarding this my annual report and statistics, I have but little change to note, the looked for increase in catch of alewives did not occur. From some cause unknown, alewives did not strike into our river this last season in the usual quantities. Some attribute it to strong Easterly winds which prevailed during the spring. Our salmon and deep sea fisheries have been good, there being a larger catch than in former years. Although we have only 11,500 lbs. of salmon reported as exported fresh in ice, I am confident that the catch exceeds 16,000 lbs. Some of the fishermen near the mouth of the river have caught a thousand dollars worth, being more than reported for the whole district. The catch of codfish has been larger than usual, but the demand has been limited and prices low, which lowers the net gain to the fishermen. The fish ladders are not a success with us; but mill owners are willing to do what is wanted and we are trying to get one that will answer in our rivers."

Shelburne County.—Wm. Muir, Junr., Esq., says:—"I find that the yield of fish in our County this year is much larger than it has ever been. I am sorry to say that we have some trouble in getting the fish up Shelburne River this season. I think it is difficult to get these ladders to work well in dams that have a great head of water. The greatest trouble I have is to get my wardens to take an interest in the work. Since I have been in office I have not received a complaint from any of the wardens, but in spite of this neglect I find that we can give a pretty fair yield of fish for this County."

Queen's County.—S. T. N. Sellon, Esq., the vigilant and persevering Overseer for Queen's County reports as follows:—"The catch of cod and scale-fish round the shores and harbors has been very much greater than for a number of years, these fish having

"followed the alewives and remained in our harbor and close inshore. Five years ago we depended on outside fishermen for fresh fish. This summer we compute the catch in small boats at 150 qtls. per week for four or five weeks fishing. There were very few alewives in our rivers when the Fisheries Department assumed control of them; this year 1,300 lbs. have been salted, and the people supplied with fish for smoking and for bait, while large numbers have ascended the rivers to their old spawning places. In September very many young alewives came down the river and went to sea. The report of the catch of salmon is much below the truth, fishermen being reluctant to tell the quantity taken. Many salmon were seen in the upper lakes during the summer, and in October very many were seen at the Milton and other dams on the river. Herrings were more abundant than for many years; but very few were taken in consequence of the low price obtained. With proper care and a corresponding expense our rivers can be made as productive and as profitable as they were in former years, and at the same time not injure the great lumbering interests of this County."

Lunenburg County.—H. S. Jost, Esq., the Overseer for the Western district of this County, reports as follows:—"The returns herewith sent although showing a considerable falling off in some principal products, are, notwithstanding, nearly equal to those of 1871 in value; the amount being \$360,839. The catch of herrings and mackerel is much less than last year; while codfish is in excess. Herring could have been taken in much larger quantities, but the price to be got for them was not a sufficient inducement for exertion. Mackerel are of a better quality than those taken last year, and have generally been sent to the United States, where a fair price has been obtained for them. The Labrador fleet, as also the bay vessels, all returned early with full fares of codfish. The shore fishing was also good, but the ruling price up to this time being from sixty to eighty cents less per quintal than last year reduces the value of the catch. The hitherto uncertain fares in the North Bay mackerel fishing has had the effect of causing most of our vessels to seek other employments this fall. Lobsters in cans appear in the returns for this district this year; an establishment recently set up at the Salmon River, New Dublin side, having put up 30,000 cans. The Chester establishment in the Eastern district put up 306,000 cans. A new establishment is now erecting buildings and machinery in the town of Lunenburg on a scale capable of doing a large business. It is probable they will cure more lobsters than the Chester house. I think such a continuous hauling on the same ground, without any regard to a close time, will tend greatly to exhaust this fishery; and would recommend some regulations for its protection."

"The yield of salmon is somewhat less than last year; from thirty to twenty cents per lb. were paid for them by dealers to pack in ice for the Boston market. The sudden fall of prices in the United States caused, it is said, by importations from California by rail, entailed some loss on parties who had bought rather freely. The fishways at Bridgewater Dams have not been improved as agreed upon, and the lower one has been somewhat injured by ice; the lower dam has also been raised about a foot which will necessitate some little alteration in the fishway."

"Daniel Dimock, Esq., the Overseer for the Eastern district, says:—"The time limited to gather the statistics of our fisheries should be extended a little, as it is impossible to ascertain the exact quantity until the shipping is closed. You will perceive quite a decrease of mackerel when compared with last year's returns, but they are of a better quality. Large quantities passed along our coast, but they did not trace the shore, except in some few instances and comparatively few were taken. Cod is almost an average catch and brought a good price. Herring below the average. The lobster fisheries seem to be on the increase, and the establishment here is doing a good business. I think in summing up the whole we have no reason to complain of the deep during the past season, and our river fisheries still improve."

Halifax County.—John Fitzgerald, Esq., reports as follows:—"I commenced visiting my districts last May and as Margaret's Bay is the principal place that requires looking after, being the chief place for salmon and alewives, and has four rivers running into it, it took the greatest part of my time. The fisheries have fallen off from those of

"last year considerably, but I am of opinion that the fishermen have done better this year, so far as the mackerel catch is concerned, on account of the fish being of better quality and bringing better prices, and also on account of the cheapness of salt, and barrels. Codfish and herring have been a little below the average. The cause of the herring fishery being so low, is that the price obtained for them was not a sufficient inducement to pursue the fishing. There have not been so many salmon caught this season as last, principally owing to storms during the height of the season. The lobster factories have increased in number, giving employment to a large number of men and boys, which is a great help to the fishermen around the district."

Ezekiel Sibley, Esq., Overseer for East Halifax, reports:—"In the river fisheries there is evidence that the system of protection is working to advantage. On all the rivers there is either a fish ladder in the dams, or a way made around the dam for fish to go up. At the mouth of the Musquodoboit River there has been built this season a large mill; a very good fish-pass was made at the end of the dam and large quantities of salmon and shad have been seen going up. There have been more salmon seen at the head of the Musquodoboit River this season than for some years previously. I saw a good many forty miles up the river. At Moses River there is a large mill erected this summer, with a fish ladder in the dam. The water was very high when I was there, I could not examine it very well, but persons living near said that fish went up in the spring. When I go there again, if there is any amendment necessary I will have it done. The proprietor said he would make any alteration that I required. These are large rivers and considerable quantities of fish ascend them and require sufficient passes. At Ship Harbor dam there is a very large and expensive ladder, up which large quantities of alewives went this spring. I went along the shore to all the mills, and have the satisfaction of saying that at every mill there is a good way for fish to ascend, and that the protection of the rivers has been beneficial and satisfactory. With respect to the catch, that of codfish has been much larger this year than last. Herring not so good. Mackerel on the Eastern part of the shore about the same as last year, and from Ship Harbor to Dartmouth a very large increase. On this part of the shore the mackerel set in later, and the fishermen did well. If prices had ruled as high as they did last year the fishermen would have had a bountiful year; as it is they have no cause for complaint. At the commencement of salmon fishing a number of applications were made to me for salmon fishing stands where parties have had stands for many years. In some cases others took possession and it gave much dissatisfaction. I think if there was a lease given to parties and a small sum charged for the privilege, it would work well. I fear this trouble will increase on the Eastern shore and there should be some way provided to give general satisfaction. The salmon fishery is very profitable and should be carefully guarded. There are in operation at present four large lobster factories on the eastern shore, doing a very profitable business and employing a large number of hands. I have taken the account of fish as carefully as possible, and think it is far below the actual catch, as many persons will not give the whole; there seems to be an inclination to give the catch as less when enquired for. I have no violations of the law to report this year; all persons seem willing to respect the law, and give their assent to what I recommend to them. Respecting Kent's Island salmon fishery, I have every reason to believe that the salmon fishermen have lifted or tied up their nets every Sabbath on which it was possible to do so. I would beg to recommend the appointment of wardens at Moses' River and at Ship Harbor."

Pictou County.—Thomas Graham, Esq., Overseer for the Southern district of this county writes:—"I have no violations of the law to report. On all our rivers, as a general thing, the people seem inclined to respect the laws; but as there are no wardens at Carriboo, Toney's River and Cape John, I have no doubt some fish are unlawfully taken. I find great difficulty in getting the quantity of fish caught, value of nets, boats, &c., as the people think the Government wants the information for assessment purposes. On the Gulf shore from Cape John to Pictou, there is a large falling off in the herring fishery, and but a slight increase in the quantity of codfish as compared with last year's returns."

"The increased demand for labor, is, I think, one reason why the salmon and herring fisheries have not been more attended to this season. I trust the Department will have a few more wardens appointed, especially one on the Middle River, one at Toney's River, and one at Carriboe River."

Walter Murray, Esq., the officer in charge of the Northern district of this county says:—"By reason of ill health I have not this season been able to make a tour through my district, and therefore have no diary account to submit and am unable to fill in the items of the return in the form directed. From information received from reliable persons, I am able to state that the catch of salmon this year has considerably exceeded that of last year; the greater part above home consumption having been exported in ice. No canning of salmon has been done this year, the establishment having been removed to another station. The catch of herring, mackerel, cod and hake, has been rather under that of last year; these kinds of fish did not strike in so plentifully. As to fishing berths a few disputes have occurred. In one case the party in possession yielded the claim to the owner of the soil adjacent, and in another case at Little Harbor the matter was settled by referring the dispute to Thomas Graham, Esq., the nearest Overseer. No warden was appointed for Barney's River, and the state of my health did not permit active supervision of the others."

Guysborough County.—James A. Tory, Overseer for this County furnishes the following report:—"The inland or river fishery of this County is not prosecuted to any great extent for the purpose of exportation; nearly all the fish caught in the rivers are consumed at home, but are included in the returns.

I must again bring to your notice that a part of St. Mary's River, in the County of Guysborough, is without a warden and until one is appointed to guard that portion of it, (the forks) spearing and other illegal modes of destroying fish is practised and will be continued. I have not heard of any other complaints all over the County during the past year. Salmon have been very plentiful and this season have got up the rivers early without much destruction; this was owing to the rivers being high at the time they entered them.

In comparing the returns of this County with that of last year, you will perceive that the catch of fish has fallen off, especially in mackerel and herring, which may appear strange, as no doubt these fish were as plentiful along the coast this season as last. But it can be accounted for in the following manner:—At the commencement of the season, no inducements were held out by the merchants and traders to the fishermen to catch them, as the price then offered for the past year's fish was extremely low, and it was feared the present year would be no better, which led many persons who had formerly been engaged in the fisheries to quit them and seek other sources of employment. Those who continued in the business did not follow up that branch of it in the early part of the season, but allowed the fish to pass unmolested. Also last season there were large quantities of herring brought from the Magdalen Islands and Port Hood, this year there was none, hence the falling off in those two species of fish. As the season advanced the price of mackerel improved, also the quality of them, which induced the fishermen to turn their attention to them again, which resulted in a fine catch in the latter part of the season, and from the prices obtained I have no doubt the season will be financially quite as good as last year, especially when you compare the catch of each year with the number of men employed. In fact I may say that the fishermen engaged the present year have done far better, and are now in better circumstances than they were at this season last year. You will also see that the catch of dry fish when compared with the men employed is largely in excess of last year and has commanded a fair and remunerative price.

I would bring to your notice that I think some regulation ought to be made respecting Lobster fishing in Nova Scotia, for it is impossible this shell-fish can stand the drain now made upon it. If the female lobster, while the spawn is upon her, was prohibited from being taken or used, perhaps it would be sufficient to continue that fishery for a much longer period.

I would also bring to your notice, that during the past season several disputes have arisen respecting salmon berths upon the sea coast. A number of inhabitants who are the owners of the land where those berths are located, and who have fished them for the past thirty years, have been deprived of them by other parties taking possession of them in the early part of the season, which would have led to considerable litigation and expense, only that I advised them to let the matter rest for this season, and to make an early application to the Hon. the Minister of Marine and Fisheries for a lease, to which they consented, and I have no doubt they will avail themselves of this remedy. If so I hope leases will be granted for a small sum. This will finally lead to applications for leases of all salmon fishing berths, and thereby make them a source of revenue."

Richmond County.—John H. Ballam, Esq., says:—"I have much pleasure in stating a considerable increase in the quantity of fish taken over that of last year, except herring and mackerel, which fisheries proved a failure in the spring, owing to its being so cold and late, while the extremely low price of these fish deterred many of the fishermen from pursuing them as energetically as heretofore. The decrease in mackerel from last year was 1,572 barrels, herring, 3,065. The increase in codfish 2,985 quintals, haddock 9,000 quintals, alewives 515 barrels, eels 70 barrels; the increase in oil was 8,081 gallons. Thus plainly shewing, as will be seen by the increase of alewives, that the system of protection for the river fisheries is working well. The salmon fishery with nets is not much attended to in my district. It was formerly carried on with torch and spear in the rivers, but this year I have no violations of the law to report, and a greater number of salmon has been seen ascending the Black River and River. Inhabitants than for a number of years past. Trout and alewives have ascended the River Moulin very plentifully the present year. I have again to recommend most earnestly the appointment of suitable persons to act as wardens for Black River and River Moulin; and I have no hesitation in saying that their appointment would amply repay the expense in plentifully restocking both these rivers with fish. A factory for putting up canned lobsters was opened here last spring by an American gentleman, Mr. Lewis, but before everything was in working order it was late in the season, still he succeeded in putting up 12,000 dozen. It is his intention to commence early next spring, and go more extensively into the business. It has been a boon to the place, having given employment to quite a number of men and women."

D. Cameron, Esq., the Overseer for the Northern district of this County, reports as follows:—"The enactments so wisely and judiciously framed for the protection of the fisheries are beginning to be strictly observed in this, and I believe many other districts, and it is with much pleasure and satisfaction that I am enabled to state that I have not been obliged to make a seizure or impose a fine, during the whole of this season. The wardens in their respective stations are strict and faithful in the discharge of the duties incumbent on them; and this, together with my own attention to the duties of Fishery Overseer, keeps protection in good working order, so that few attempts are made to violate the laws. The streams throughout this district appear to be unmolested, and no obstructions to my knowledge are thrown in the way of the finny tribe. I regret to say however that there is a large deficit in the quantity of fish caught when compared with that of last year; I will assign two or three reasons for this; In the first place we had a very late spring, and from the inclemency of the weather and lateness of the season, the deep sea fishing vessels, on their first trips, were obliged to return with very small fares, some with only a few quintals, after five or six weeks absence. Our shore fishermen were likewise as unfortunate in spring; but the following part of the season proved more favorable to both classes. Then the unusually low prices offered by mercantile men for pickled fish, such as herrings and mackerel, gave no encouragement to our shore fishermen, consequently quite a number of these men left our shores, seeking other avocations. My returns show a decrease of 95 in the number of men employed. These reasons will account, to a great extent, for the large falling off from the returns of last year."

Cape Breton County.—Francis Quinan, Esq., says:—"In Cape Breton, 1872 will be long remembered for the severity of its winter; the drift ice appeared along our coast in greater bodies, and remained longer around our shores, than during any previous season

or the last 25 years. On the 3rd day of June, the ice still impeded the entrance to Sydney harbor. To this late sojourn of the ice do our fishermen attribute the slender catch of salmon this year. June generally brings fresh salmon into our market and it may well be conceived that the run of the fish was interfered with by the fields of ice that lingered around a full month later than usual. The summer mackerel showed in swarms in some of our harbors during the fine season, but few were caught except to supply the fish market with the article fresh. The run of fall mackerel was a very poor one and the catch small. Herring were plentiful. Codfish and haddock an average. Alewives and spring herrings few; probably from the same cause as that which interfered with the salmon catch. Halifax as a market for fish has been very much depressed since the date of my last report. Prices went down suddenly and pickled fish last spring was a drug in the market. This fact acted damagingly on the fishermen's prospects all through the season, and even now prices for the best quality of pickled or dry do not approach those of the last ten years. I have no fines to remit and I am happy in being able to say so, in as far as the absence of fines goes to prove the non-violation of the law, and in regard to our County, I think I may say that the one proves the other. I beg to recommend the appointment of two additional wardens for this County, one to look after the stream known as Rory Brack's the other at Escasoni."

Victoria County.—Donald McRae, Junr., Esq., reports that:—"The fisheries in this County, as a whole, have been good this season, and although prices ruled low, still they will compare favorably with the past. Some individuals have not done so well as last year, but the fisheries have been more general, and all have reaped a fair harvest from the ocean. The protection of the rivers, although inadequate, has proved beneficial, and I am happy to report that I have had no complaints of violation in the whole County, where the rivers are looked after by the wardens. But I am sorry to say that numerous complaints have been made to me from the different sections where there are no wardens to protect the rivers. I feel it my duty once more to bring to your notice the necessity of having more wardens appointed for these rivers that are at present unprotected, and are so situated that they cannot be protected without a warden being appointed for each, viz.: Ingonish River, Washabuck River, Middle River and South River, at Cape North. As stated in my previous reports, these rivers are generally frequented by salmon and large sea-trout. The wardens report that salmon have been seen in large numbers ascending the rivers this season; this speaks well for the past and gives every reason to hope that the rivers of this County, where fish heretofore were scarcely to be seen, will become in a few years a source of wealth to the people. To obtain this end protection should be strictly adhered to."

Inverness County.—Murdoch A. Ross, Esq., the Overseer for the Northern district of this County, says:—"I am happy to inform you that all kinds of fish with the exception of mackerel, have come very near last year's footing. The fact of this season's catch falling short of last season's, may be attributed to the circumstance, that there were not nearly so many fishermen engaged in the fishery as last year, because the price was so low, but those who did pursue the business were well remunerated. Herring shows an increase, but codfish a falling off from last year. The reason of this is easily given. The ice of the St. Lawrence remained so late on the shores that the spring run had all left before the boats could get out in search of them. I was informed by the captain of the largest establishment in Cape Breton, that there were more than double the number of cod taken in his employ this year by the same number of men, but they were quite small, and seemed to be a run of young fish. The river fisheries have been very good. In the South-west branch of the Margaree River, there were taken 1,563 barrels of alewives; an increase of 238 over last year. The North-east Margaree was this year more than ever visited by sportsmen from various parts of the continent, and they never enjoyed themselves better, as salmon and trout were abundant. There were about 400 salmon taken, weighing an average of 20 pounds. I have spoken to a good many of the sportsmen, and they seem delighted with their success. The North-east Margaree extends from the harbor over 5¹/₂ miles into the interior, and is thickly settled over 30 miles from its mouth. Last August I took a walk from the upper settlement up the river about twelve miles, and counted five

hundred and twelve salmon ; they go much further up stream than I went. A great many salmon have been taken outside the harbor, and along the shore ; these are chiefly put up in tins and shipped to the United States."

William Grant, Esq., Overseer for the Southern district of Inverness County says:—" I beg to report that in the river fisheries there is evidence that the system of protection is working to advantage. The wardens discharge their duties well. Torching and night spearing is now seldom practised, and I have not heard of a net being set contrary to the instructions given. The coast fisheries this season have decreased, particularly those of herring and mackerel. The herring fishery in this district is of short duration, and alewives do not resort to this coast much."

You will observe that every Overseer in the foregoing report urges the appointment of more wardens. The fact is, our rivers are so numerous and small, that they are subject to very many abuses which are not practised on larger streams. Fish are much more easily taken on small streams, and poachers do not run so much risk of being caught ; hence the necessity for local wardens. The foregoing reports speak very encouragingly of the enforcement of the laws, and the consequent improvement of the fisheries on very many of our rivers ; but while much has been done there is yet much to do. The sportsmen for instance complain bitterly that the laws are not enforced as they should be, and if I have been rightly informed some formal complaints have been sent to head quarters on this subject. I would here urge the necessity of a thorough examination of the various districts throughout this Province by the Provincial Officer, as well to examine the fish-ladders as to instruct the local officers in their duties, and to personally enquire as to the progress made in improving the rivers. Overseers should be allowed to hold their own courts, without the assistance of other Justices of the Peace, as the system of appointing Magistrates has been so abused in this Province by the different political parties, that the bench is crowded with men totally unfit for the position they hold, and it is often impossible to get justice at their hands.

There should also be some arrangement made whereby certain fishery berths in the shad as well as salmon fisheries should be sold to the highest bidder, as this is the only way to settle existing disputes, which are and will be a continual annoyance to officers as well as to the Department. The parties interested in most cases recommend this mode of getting rid of the difficulties. The mode of taking shad throughout the Bay of Fundy and its tributaries requires a thorough investigation and restriction. This important fishery is continually declining in its yield, and, like the herring fishery of Digby Basin, is in danger of being completely annihilated.

In addition to the above suggestions made by Mr. Rogers, in which I fully agree, I would respectfully refer you to the concluding remarks of my last annual report, which, as they are more applicable now, and call more urgently for adoption, I may be excused for repeating, with some additional observations which coming events and the present aspect of our fisheries appear to call for.

The destruction of young shad and herrings by the use of brush weirs, is a subject for serious consideration. In former reports I have dwelt upon the matter at considerable length, and it is a question for your Department to decide, whether the public interest will not be best conserved by their total abolition, and by the fishing being confined entirely to the use of nets. There can be no question that the measure will greatly increase the quantity and quality of shad. Both in Nova Scotia and New Brunswick, the salmon, shad, herring, and gaspereau fisheries are pursued by means of brush weirs to a large extent, and no doubt their abolition would for a time cause great inconvenience, and perhaps loss, and it would be sure to cause very great and general dissatisfaction in all localities where

their use has become an established mode of fishing. But my own conviction is, that the destruction of young shad and herrings is operating injuriously on these fisheries, and the utmost vigilance of fishery officers is inadequate to its prevention.

On the subject of the restoration of the oyster beds in New Brunswick, and the adoption of some means by which the production of this mollusk may be increased both in New Brunswick and Nova Scotia, by planting new beds in localities favorable to their growth, I have in former reports said so much, that I know not what further to say. The close time provided by law has been rigidly enforced, but excessive and indiscriminate raking of the same beds during the whole open season, year after year, not only prevents any increase, but must, necessarily, steadily and surely exhaust them, and if some more effectual means are not adopted, every known bed in the Province will soon be destroyed. The simplest, wisest, and most effective means of increasing the production of oysters in New Brunswick and Nova Scotia, is to lease all localities favorable to their growth, (whether old beds exist there or not,) on such terms as will induce practical men to invest capital in their cultivation. This is the means adopted in other countries, and no other will, in my opinion, ever succeed to any extent, because so long as natural beds are common property, they will be raked just as often and as long as any oysters can be found to rake. The protection provided by the Fisheries Act has now been applied for four years, and the result is *nil*—in fact the beds are worse by just so many barrels as have been taken from them, until they are now not worth raking in most places where they were formerly abundant. These remarks apply more particularly to Shediac, Cocagne, Buctouche and Richibucto, but in other localities the same causes are fast producing the same results, for it is plain that no locality can stand this constant and unremitting drain, by primitive and clumsy implements, the use of which destroys as many oysters as are raised by them. To have any fair chance to increase the beds should be raked but once every three or four years, and in the intervals they should not be disturbed; but of course those who have no particular interest in them care only for the present, utterly regardless of the future. Next to leasing, the most effectual mode of securing an increase in existing beds, will be setting them apart for a number of years—say six or nine—and prohibiting all disturbance of them during that time. If one of these modes is not adopted, a few years will see the last of the very best oysters in the world. In this connection I may state that the operations of Hon. A. Macfarlane, in Malagash Bay, in Colchester County, bid fair to be entirely successful. He has already planted new beds and the young oysters are growing rapidly, proving beyond a doubt that oysters can be cultivated on our coasts with as much certainty as a crop of grain can be sown and gathered. Considering the growing demand for this delicious luxury, and the large markets that will be open for it when the Intercolonial Railroad is completed, it is a subject of great regret that our unrivalled facilities for oyster production to any extent should not at once be utilized, by the adoption of any and all means which will secure that result. At present the existing beds are a source of profit to no one, and there is no reasonable prospect, under the present system, of their ever becoming such; on the contrary, there is an absolute certainty that their total extinction is not far distant. I respectfully urge the reconsideration of this matter, and the adoption of some means by which this valuable resource may be preserved and developed.

In view of the rapidly increasing business done in preserving lobsters, and the large numbers of these shell-fish which are now yearly caught in both Provinces, I respectfully recommend that the lesson to be learned from the fate of our oyster beds be pondered in time, and means taken to prevent a like result in the case of the lobster. Heretofore this shell-fish has been so plentiful on some of our coasts, and until recently so little utilized, that no regulations have been made for the conduct of this fishery, consequently lobsters have been taken at all seasons, without much regard being paid to their quality or condition. As no supply, however large, can stand a ceaseless and increasing drain, unless means are taken to supply the waste, it is evident that the fate of the oyster now bids fair to overtake the lobster, viz.:—exhaustion from over fishing. To prevent this. I would urge that a close time from 1st August to 30th September, be provided by Order

in Council, during which it shall be illegal to fish for, buy, sell or possess this shell-fish. Early in August the lobster begins to cast off its outer shell, and for the next two months is out of condition, unfit for food, and should not be taken.

Both in Nova Scotia and New Brunswick there are, in several good fish rivers, natural obstructions which prevent the ascent of fish. Overseer Morehouse reports that the Sissabou River in Digby County is impassable on account of an irregular fall. Overseer Jost reports an obstruction on Petite River, in Lunenburg, and Overseer Ballam one on Grand River, in Richmond County. If a small sum of money could be devoted to the removal of these obstructions, these rivers would become valuable nurseries for salmon and other fish. Several other rivers in Nova Scotia might be opened with advantage, if the means can be provided; the most important are those above named, and the Avon in Hants County.

From the number of applications that have been made for leases of rivers and fishing stations especially in Nova Scotia, I am led to believe that there is a growing desire on the part of fishermen to have the system of leasing that now obtains in Quebec and Ontario introduced in the Maritime Provinces. Constantly recurring disputes between fishermen and land-owners, and between fishermen themselves, rendering this measure more necessary every year, and I am persuaded that it will eventually have to be adopted. In most cases the fishermen would prefer to pay a small rent to Government for his station and be protected in his holding, than to be year after year disputing with his neighbour as to their respective claims. In numerous cases, both in Nova Scotia and New Brunswick, the owners of land exact and receive a consideration from fishermen for allowing them to set their nets in front of private property, while in fact the land-owner has no exclusive rights beyond his boundary, which is the shore. If rents are to be paid for these privileges, it is clear they should be paid to Government and not to land-owners. In the former case the rent paid by the fishermen would be returned to him in the shape of protecting and fostering his means of livelihood; in the latter he derives no benefit, for the rent goes into the pocket of one who has no legal right to demand it. The adoption of this measure would ensure the best results as regards enforcement of the law and regulations for the protection of the fisheries. This measure becomes the more necessary from the fact that, by the eighteenth article of the Treaty of Washington, American Citizens will have the same privileges on our shore (outside the mouths of rivers) as British subjects, and in these shore fishings I apprehend a fruitful source of trouble. By assuming control of them and placing them under rental all difficulty will be avoided, and this is the only feasible mode I see by which these shore fishings can be secured to our resident fishermen, many of whom have occupied their stands for years, although they can urge no exclusive right to them except that of possession on sufferance.

Numerous applications have also been made from Nova Scotia for leases of the upper waters of rivers for angling purposes, and I see no reason why, in most cases, these should not be granted. In Quebec and New Brunswick this is done with the best results, for the mere presence of anglers on a stream is a great protection against spearing and illegal netting, while the rents accruing would, to some extent, lessen the amount now drawn from the public treasury for the fisheries service. Until a uniform system is adopted in all the Provinces the full benefit of the Fishery Laws cannot be secured. Applications have also been made for the exclusive use of nearly deserted rivers for artificial breeding. Fish culture has been so successful, and has produced such beneficial results in other places, that I cannot but recommend every facility and encouragement to its introduction in our Provinces. The complete success of Mr. Wilmot's operations in Ontario, and of Mr. Holliday's on the Moisie, leads me to hope that similar establishments may be conducted in each of the Lower Provinces. The great benefits they would secure in restocking our rivers would more than counterbalance the outlay in their construction and maintenance, even if they did not become, as I feel assured they would, entirely self-supporting.

In every report I have had the honour to submit to you, I have endeavoured to show the great necessity that exists for a general Inspection Law, by means of which the quality of fish exported or sold at home could be guaranteed. With every passing year

this necessity is becoming more apparent, as all kinds of frauds are practised, and our splendid fish, the best of their kinds produced in any country, instead of commanding, as they should do, the highest prices, are depreciated in foreign markets, owing to the careless manner in which they are cured, and the fraudulent manner in which they are often branded. This matter is of so great importance, that I hope the next session of Parliament will not close until a rigid Inspection Law for fish and fish oils shall have been enacted. Until this is done, our fish will never secure that high character to which their admitted excellence justly entitles them.

W. H. VENNING, *Inspector of Fisheries,*
Nova Scotia and New Brunswick.

Note.—The following interesting letter from Prof. Spencer T. Baird, of the Smithsonian Institute, who now fills the important post of United States Commissioner of Fish and Fisheries, although addressed to the Commissioner of the State of Maine, is so applicable to our Provinces, and so fully corroborates the views and opinions I have repeatedly urged in my several reports, that I make no apology for its introduction here, but beg for it that attention to which the reputation of its author entitles it.

W. H. V.

WASHINGTON, D. C., November 16, 1872.

MY DEAR SIR,—I am in receipt of your letter, asking my opinion as to the probable cause of the rapid diminution of the supply of food-fishes on the coast of New England, and especially of Maine. The fact, as stated, needs no question; it is too patent to the experience of every man who has been interested in the fisheries, whether as a matter of business or as an amateur. An examination of the early records of the country in which the subject is referred to cannot fail to convince the most skeptical.

We are all very well aware that fifty or more years ago, the streams and rivers of New England emptying into the ocean were crowded, and almost blockaded at certain seasons, by the numbers of shad, salmon and alewives seeking to ascend, for the purpose of depositing their spawn, and that, even after these parent fish had returned to the ocean, their progeny swarmed to an almost inconceivable extent in the same localities, and later in the year descended to the sea in immense schools. It was during this period that the deep sea fisheries of the coast were also of great extent and value. Cod, haddock, halibut, and the line fish generally, occupied the fishing grounds close to the shore, and could be caught from small open boats, ample fares being readily taken within a short distance of the fishermen's abodes, without the necessity of resorting to distant seas. Now, however, the state of things is entirely different. The erection of impassable dams upon the waters of the New England States, and especially of the State of Maine, has prevented the upward course of the anadromous fishes referred to, and their numbers have dwindled away, until at present they are almost unknown in many otherwise most favorable localities.

The fact has been observed, too, that with the decrease of these fish there has been a corresponding diminution in the numbers of the cod and other deep-sea species near our coasts; but it was not until quite recently that the relationships between the two series of phenomena were appreciated as those of cause and effect. Halibut, it is believed, can be reduced in abundance by over-fishing with the hook and line, but experiences in Europe and America coincide in the confirmation of the opinion that none of the methods now in vogue for the capture of fish of the cod family (including the cod, haddock, pollack, hake, ling, &c.) can seriously effect their numbers. Fish, the females of which deposit from one to two millions of eggs every year, are not easily exterminated unless they are interfered with during the spawning season, and as this takes place in the winter and in the open sea, (the spawn floating near the surface of the water,) there is no possibility of any human

interference with the process. Still, however, these fish have become comparatively very scarce on our coast, so that our people are forced to resort to far distant regions to obtain the supply which formerly could be secured almost within sight of their homes.

It is now a well established fact that the movements of the fishes of the cod family are determined; first, by the search after suitable places for the deposit of their eggs; second, by their quest of food. Thus, the cod, as a summer fish, is comparatively little known on the coasts of northern Europe; but as winter approaches, the schools begin to make their appearance on the northwestern coast of Norway, especially around the Loffoden Islands, arriving there finally in so great numbers that the fishermen are said to determine their presence by feeling the sounding lead strike on the backs of the fish.

Here they spend several months in the process of reproduction, the eggs being deposited in January, and the fishery being prosecuted at the same time. Twenty-five to thirty thousand men are employed in this business for several months; at the end of which the fish disappear, and the fishermen return to their alternate occupations as farmers and mechanics. The fish are supposed to move off in a body to the Grand Banks, which they reach in early summer, and where they fatten up and feed until it is time for them to return to the northeast. It is believed that the great attraction to the cod on the Banks, consists in great part of the immense schools of herring or other wandering fish, that come in from the region of the Labrador and New Foundland seas, and which they frequently follow close in to the shore, so that they are easily captured.

It is well known that the presence or absence of herring determines the abundance of hake and cod on the Grand Manan Fishing Banks, the fishes of the first mentioned family having a peculiar attraction to carnivorous fish of all kinds. It is, however, the anadromous fishes of the coast which bring the cod and other fishes of that family close upon our shores. The sea herring is but little known outside the region of the Bay of Fundy, excepting in September and October, when they visit the entire coast from Grand Manan to Scituate, for the purpose of depositing their spawn; this act depending upon their finding water sufficiently cold for their purposes, a condition which of course occurs later and later in the season, in going south.

In the early spring, the alewives formerly made their appearance on the coast, crowding along our shores and ascended the rivers in order to deposit their spawn, being followed later in the season by the shad and salmon. Returning when their eggs were laid, these fish spend the summer along the coast; and in the course of a few months were joined by their young, which formed immense schools in every direction, extending outward, in some instances, for many miles. It was in pursuit of these and other summer fish, that the cod and other species referred to, came in to the shores; but with the decrease of the former in number the attraction became less and less, and the deep sea fishes have now, we may say, almost disappeared along the coast.

It is therefore perfectly safe to assume that the improvement of the line fishing along the coast of Maine is closely connected with the increase in number of alewives, shad and salmon; and that, whatever measures are taken to facilitate the restoration of these last mentioned fish, to their pristine abundance, will act, in an equal ratio, upon the first mentioned interest. The most important of the steps in question are the proper protection of these spring fish, and the giving to them every facility needed for passing up the streams to their original spawning grounds; this is to be done of course by the construction of suitable fishways and ladders. The real question at issue in regard to the construction of these fishways is, therefore, after all, not whether salmon shall become more plentiful, so that the sportsman can capture them with the fly, or the man of means be able to procure a coveted delicacy in large quantities and at moderate expense. This is simply an incident; the more important consideration is, really, whether the alewife and shad shall be made as abundant as before, and whether the cod or other equally desirable sea fish shall be brought back to our coast, so that any one who may be so inclined, can readily capture several hundred weight in a day.

The value of the alewife is not fully appreciated in our country. It is in many respects superior to the sea herring as an article of food; is if anything, more valuable for

export; and can be captured with vastly less trouble, and under circumstances and at a season much more convenient for most persons engaged in the fisheries.

I have already extended this letter to an unreasonable length, and must therefore bring it to a close, with the assurance, however, that all the propositions I have thrown out can be amply substantiated.

Very truly yours,

SPENCER T. BAIRD,

U. S. Commissioner of Fish and Fisheries.

E. M. Stilwell, Esq.,

Commissioner of Fisheries,

Bangor, Maine.

APPEN

RETURN of the Number of Men, Nets and Weirs, employed in the Fisheries of value of

COUNTIES.	No. of Men.	No. of Nets and Weirs.	Value of Boats and fishing material.	Salmon—brls.	Salmon fresh in ice—lbs.	Salmon smoked and in cans—lbs.	Mackerel—brls.	Mackerel—cans.	Herring—brls.	Herring smoked—boxes.	Alewives—brls.	Cod—cwt.	Cod Tongues and Sounds—brls.
Cumberland.....	230	438	33435	42	10000	.....	50	.....	3200	.....	850	6500	.....
Colchester.....	180	130	10630	75	4200	.....	.....	.....	1250	.....	450	2500	.....
Hants.....	211	75	7500	261	.....	.....	.....	.....	235	.....	.....	190	.....
Kings.....	325	64	7250	.....	16933	.....	.....	.....	2318	11510	60	710	.....
Annapolis.....	282	136	15496	.....	10940	.....	.....	.....	1216	16050	10	2080	9
Digby.....	1107	583	42900	.....	1500	.....	20	.....	4158	2500	30	22255	62
Yarmouth.....	1280	906	175082	.....	11509	.....	1672	.....	3459	4200	1483	69517	73
Shelburne.....	1250	.....	.....	29	.....	.....	11677	.....	30145	.....	270	95042	.....
Queens.....	730	1319	77863	556	119950	.....	1488	.....	8134	.....	1300	29574	.....
Lunenburg.....	2156	2351	89693	.....	24500	3950	15341	.....	17825	.....	503	68500	.....
Halifax.....	2460	2635	263320	44	154460	7290	36359	39500	34950	.....	159	59160	.....
Pictou.....	139	40	4810	350	95913	.....	200	.....	1640	.....	350	850	.....
Antigonish.....	675	825	22510	35	90000	30000	2850	.....	4350	.....	160	1220	9
Guyaborough.....	1931	10093	193422	855	.....	3380	20980	11000	20311	.....	2308	43030	15
Richmond.....	1760	6127	104850	120	3200	.....	15772	.....	18587	.....	1805	31350	108
Cape Breton.....	1158	2870	33657	300	1000	.....	1569	.....	8636	42	224	23000	.....
Victoria.....	1169	2590	85850	700	.....	.....	5310	.....	4500	.....	.....	23600	.....
Inverness.....	1955	1463	50580	162	10800	30000	3743	.....	3590	.....	1750	45345	27
Total.....	19097	36150	1211178	3329	534905	74620	115631	50500	168513	34502	11712	525249	308

RECAPITULATION of the Yield and Value of the Fisheries

KINDS OF FISH.	QUANTITY.	RATE.	VALUE.
Salmon.....	3,529 brls.	\$ 18 00	63,522
do (fresh in ice).....	554,905 lbs.	0 12½	69,363
do (smoked and in cans).....	74,620 "	0 15	11,193
Mackerel.....	115,631 brls.	14 00	1,618,834
do.....	50,500 cans.	0 12	6,060
Herring.....	168,513 brls.	4 00	674,052
do (smoked).....	34,302 boxes.	0 25	8,576
Alewives.....	11,712 brls.	3 00	35,136
Cod.....	525,249 qutls.	4 25	2,232,308
Cod Tongues and Sounds.....	308 brls.	7 00	2,156
Pollack.....	24,099 qutls.	3 00	72,297
Hake.....	89,214 "	3 00	267,642
Halibut.....	4,613 brls.	5 00	23,215
Carried forward.....	.....	.....	.....

DIX O.

the Province of Nova Scotia for the year 1872, together with the yield and fish caught.

Pollock—cwt.	Hake—cwt.	Halibut—lbs.	Haddock—Number.	Shad—brls.	Bas—lbs.	Trout—lbs.	Smelt—lbs.	Eels—brls.	Oysters—brls.	Lobsters—cans.	Fish-oil—gallons.	Fish-guano—tons.	Fish used as manure—brls.	Value.
1000	1030	24000		1100		600	1500	2	25		75			\$ 61446
350				1250										29900
				978										14269
75				405			11200				300			21361
528	5450	20000		5	2000	2000					6723			42154
10225		155850	40000	50			1000	35			33975			177526
2540	1772	39140		3			2160	85			33975			377655
	12985										1444			774709
2256										92000	32309			258728
3890	11560	72860		66			12000	3		419610	62221	118	700	758277
2340	7760	327244					5000	21		1565000	52320			1390867
								7	100					32730
	1200						20000	20	46		2400			85453
285	800	209500					15000	163		200004	38260			668572
610	\$2040	45800		10			4600	333	30	144600	37260		30	602502
	8557	34200					16200	138	5		12860			198465
	500										12050			214572
	5540							205			21269			307649
24099	89214	928594	40000	3867	2000	2600	88660	1016	200	2422058	414419	118	730	\$601835

of the Province of Nova-Scotia, for the year 1872.

KINDS OF FISH.	QUANTITY.	RATE.	VALUE.
		\$ cts.	\$
Brought forward.....			
Haddock.....	40,000 fish.	0 12	4,800
Shad.....	3,867 brls.	8 00	30,936
Lobsters.....	2,422,058 cans.	0 25	605,514
Bas.....	10 brls.	4 25	42
Trout.....	13 "	9 00	117
Smelts.....	443 "	4 25	1,883
Eels.....	1,016 "	17 00	17,272
Oysters.....	200 "	3 00	600
Fish Oil.....	414,419 galls.	0 65	269,372
Fish, (for manure).....	700 brls.	0 25	175
Fish (guano).....	118 tons.	15 00	1,770
			6,016,835

APPEN

RETURN of Number of Men, Nets and Weirs employed in the Fisheries of and value

COUNTIES.	No. of Men.	No. of Nets or Weirs.	Value of boats and fishing material.	Salmon—brls.	Salmon, fresh, in ice—lbs.	Salmon smoked and in cans—lbs.	Mackerel—brls.	Mackerel—cans.	Herrings—brls.	Herrings smoked—boxes.	KINDS OF FISH.			
											Alewives—brls.	Cod—cwt.	Cod Tongues and Sounds—brls.	Pollock—cwt.
Restigouche.....	75	61	\$ 7736	18	4400	165070	.....	.....	.....	.....	.....	.....	.....	.....
Gloucester.....	2332	1490	144116	.....	11188	65000	1194	2000	45122	.....	3510	59254	1494	.....
Northumberland.	869	2044	61237	22	310341	226959	10	21180	5153	.....	1069	880	126	.....
Kent.....	1130	.....	5153	.....	199600	24960	745	10500	3901	.....	1322	2126	500	870
Westmorland and Albert.....	190	402	4775	106	21320	.....	100	.....	1110	800	100	50	.....	45
Carlton.....	135	85	670	.....	12670	.....	.....	.....	.....	.....	.....	.....	.....	.....
York.....	120	120	5000	480	20220	.....	.....	.....	.....	.....	100	.....	.....	.....
Kings, Queens and Sunbury.....	19	23	710	.....	1145	.....	.....	.....	.....	.....	280	.....	.....	.....
St. John.....	710	1513	84440	.....	407100	4100	.....	.....	4150	.....	16550	.....	.....	1360
Charlotte.....	1228	2604	179048	.....	704	.....	.....	.....	29962	571343	765	19111	4829	17656
Total	6808	8342	492887	626	988688	486089	2049	33680	89398	572143	22906	81421	6949	19931

RECAPITULATION of the Yield and Value of the

KINDS OF FISH.	QUANTITY.	RATE.	VALUE.
Salmon.....	626 brls.	\$ 0.00	\$ 11,268
do (fresh in ice).....	988,688 lbs.	0 12 1/2	123,586
do (smoked and in cans).....	486,089 "	0 15	72,913
Mackerel.....	2,049 brls.	14 00	28,686
do.....	33,680 cans.	0 12	4,042
Herring.....	89,398 brls.	4 00	357,592
do (smoked).....	572,143 boxes.	0 25	143,036
Alewives.....	22,906 brls.	3 00	68,988
Cod.....	81,421 qtls.	4 25	346,039
Cod Tongues and Sounds.....	6,949 brls.	7 00	48,643
Pollock.....	19,931 qtls.	3 00	59,793
Hake.....	37,442 "	3 00	112,326
Halibut.....	443 brls.	5 00	2,215
Carried forward .....	.....	.....	.....

DIX P.

the Province of New Brunswick for the year 1872, together with the yield of fish.

Hake—cwt.	Halibut—lbs.	Haddock—cwt.	Shad—brls.	Bass—lbs.	Trout—lbs.	Smelts—lbs.	Eels—brls.	Oysters—brls.	Lobsters—cans.	Fish-oil—galls.	Fish guano—tons.	Fish used as manure—brls.	Value.
750	78040		100	25350	4000	150000	40		24000			250	\$ cts.
390			25	128637	32400	8000	4265	16988	393000	23793		17957	35745 00
430			6	53900	530	6000	126	342	69164	280		700	730251 00
					5500	295000	50	7215	433388	1978			129428 00
52			1745		4000	34000	413	75					216225 00
			25	1200	600		500			75			33574 00
			300	5000	10000	2000	50						10336 00
													15316 00
1510	2850		9	800									1072 00
34310	7750	1190	860	2160	1200		2500						175909 00
			1		500				135033	55589	620	875	617603 00
37442	88640	1190	3071	217047	58230	495500	7944	24620	1055485	81715	620	19782	\$1965459 00

fisheries of the Province of New Brunswick, 1872.

KINDS OF FISH.	QUANTITY.	RATE.	VALUE.
		\$ cts.	\$
<i>Brought forward.</i>			
Haddock	1,190 qntls.	3 25	3,868
Shad	3,071 brls.	8 00	24,568
Lobsters	1,055,485 cans.	25	263,871
Bass	1,085 brls.	4 25	4,611
Trout	291 "	9 00	2,619
Smelts	2,477 "	4 25	10,527
Eels	7,944 "	17 00	135,048
Oysters	24,620 "	3 00	73,860
Fish Oil	81,715 galls.	0 65	53,115
Fish (for manure)	19,782 brls.	0 25	4,945
Fish Guano	620 tons.	15 00	9,300
			1,965,459

APPENDIX Q.

EXTRACT FROM AN OFFICIAL REPORT ON BRITISH COLUMBIA, BY
THE HON. H. L. LANGEVIN, C. B., MINISTER OF PUBLIC
WORKS, 1872.

THE FISHERIES OF BRITISH COLUMBIA.

THE fisheries of Columbia are probably the richest in the world, but they have been but very little worked. The gold fever draws immigrants towards the auriferous tracts, causing them to neglect what to many of them would prove to be a much richer mine, and one yielding much more certain results than that, to seek which they go so far, and undergo so much labor and fatigue. At the present time things are beginning to wear a different aspect; some attention is being turned to the fisheries, without, however, the auriferous lands being in consequence neglected; however, the fisheries require fresh arrivals to develop their full resources. The present population has its ordinary avocations, and can devote to this new branch of industry but an unimportant part of its time. Inferences may be drawn from the fact that there are really only two large fishing establishments; one a salmon fishery, under the management of Captain Stamp, who, for the first time, exports salmon in tin boxes; the other, a whale fishery in the Gulf of Georgia. I saw one of the whalers, the *Byzantium*, in Deep Bay. She was an English brig, commanded by Captain Calhoun, and on board of her was Captain Roys, the inventor of an explosive ball, which is used in the whale fishery, and which, on penetrating the marine monster, explodes, and throws out a harpoon. The first whale against which this projectile was used was killed in 1868. In 1869 and 1870, the company made use of a small steam vessel, and their success last year induced them to devote to the trade a brig of 179 tons, manned with twenty hands. Captain Calhoun complained of having to pay heavy duties on nearly all the articles required for the fishery. This obstacle to the success of this branch of industry will shortly be removed by the substitution of the Canadian tariff for the tariff of British Columbia.

I was assured that, if that expedition proved a success, there is room in our Pacific waters for at least fifty undertakings of a similar character. I observe that, since my return, the whaling schooner *Industry* has arrived at Victoria with 300 barrels, or about 10,000 gallons of oil, after an absence of only five weeks. One of the whales killed during the expedition was sixty feet long, and would certainly yield nearly seventy barrels of oil.

On this subject the Blue Book of 1870 contains the following:—

"During the year there were three whaling companies in existence (one of these has since broken down). Thirty-two whales were killed, yielding 25,800 gallons of oil, worth 50 cents per gallon. There was one vessel with boats, and there were two stations with boats, employing altogether forty-nine hands. The capital invested in this interest amounted to about \$20,000."

"The dog-fish catch exceeds in importance that of the whales. 50,000 gallons of dog-fish oil was rendered, worth forty cents per gallon. This branch of industry is steadily progressing."

From another source I have obtained the following information regarding 1871.

" There are three whaling expeditions now in action in the waters of British Columbia, viz. :

" 1st. The British Columbia Whaling Company, with the *Kate* a schooner of seventy tons, outlay \$15,000. They have already secured 20,000 gallons ; they expect 10,000 more. The value of oil here is 37 cents a gallon. In England it is worth £35 a tun of 252 gallons. This company have in addition secured already 30,000 gallons of dog-fish oil, worth 37 cents here per gallon, 55 cents in California, and £35 a tun in England.

" 2nd. The brig *Byzantium*, 179 tons, expenditure \$20,000. Their take for the year is not known.

" 3rd. Steamer *Emma* and scow *Industry*, expenditure \$10,000 estimated take 15,000 gallons.

" This coast is considered by an old whaler from Providence to be one of the best fields in the world from whence to start whaling enterprizes. Particular attention is called to the value and facility of the dog-fish oil fishery, which is even a more paying undertaking, at present, than the whaling."

In Columbia salmon is most abundant, and constitutes one of the principal sources of wealth in the country. It is sold at a very low price—five cents a pound—at Victoria, and constitutes an important part of the food of the Indians. There are five species, a description of which is contained in an extract from the Reverend Dr Brown's pamphlet on British Columbia, printed at foot.

DETAILS RESPECTING THE FISHERIES.

As this branch of industry, the fisheries, was so little developed, I obtained from a gentleman who is, from his studies, in a position to give me correct information on this subject, a memorandum which, though short, gives more details than it was possible for me to obtain from official documents. It is as follows :—

" In speaking of the fisheries of British Columbia, one may almost be said to be speaking of something which has no existence. With the exception of a small attempt at putting up salmon in tins on the Fraser River, and one or two whaling enterprizes of a few year's standing, no attempt whatever has been made to develop the actually marvellous resources of this Province in the way of fish. I will, therefore, proceed to give a list of the fish that are to be found in quantities that would warrant the establishment of fisheries, and then a brief description of the habits, locality, and commercial utility of each class of fish, with any remarks that may occur that would be of interest or value.

" Description of fish found in British Columbia and Vancouver Island :—Whale, sturgeon, salmon, oulchan or houlican, cod, herring, halibut, sardine, anchovy, oysters, haddock, and dog-fish.

" There is no law governing fish in British Columbia. Fishing is carried on throughout the year without any restrictions. This state of things is well suited to a new and thinly populated country. The restrictions of a close season would be very injurious to the Province at present, and for many years to come.

" It is quite impossible to give even an approximate estimate of the produce of the fisheries during the last ten years, there being no data from which it could be computed.

" There is no local law preventing Americans fishing in our waters.

" *Whale*.—I am unable to say whether the whales are sperm, or of what species, but an undertaking, now some three years old, seems from all accounts (it has been found impossible to obtain any official return from the company) to have been very successful. That it is a profitable speculation there can be no doubt, or it would have been long ago abandoned ; and that the company have no difficulty in obtaining whales is also demonstrated by the amount of oil secured. I have little doubt that if this branch of industry were followed up by men well versed in the requisite knowledge, a vast amount of wealth might be added to this Province by whale fisheries.

"The *Sturgeon* abounds in the rivers and estuaries of British Columbia. This fish is caught with little or no difficulty. It attains a gigantic size, over 500 lbs. in weight. The flesh is excellent, both fresh and smoked. No attempt, that I am aware of, has ever been made to put the fish up for market. Its commercial value is derived from the isinglass and caviare which are made from it. I am not aware of there having been any attempt to manufacture isinglass in this country. Caviare of excellent quality has been produced. At present I should be inclined to believe that there is no person in the Province capable of making isinglass, which is, therefore, a resource entirely undeveloped as yet.

"*Salmon*.—The salmon in the waters of British Columbia are excellent in quality varied in species, and most abundant. In the rivers which they penetrate up to their head waters, they are caught by a drag-net in the deep waters, and by a bag-net in the rapids. In the sea they are generally caught with hook and line; a canoe at certain seasons can be filled in a day by the latter method. The Frazer River salmon is justly famous. It is used fresh, salted, pickled, smoked, and kippered, and for export is put up salted in barrels, and fresh in one or two pound tins; the latter practice has only been commenced during the past three years. The article produced is of a most excellent description, and will doubtless prove a source of considerable export trade when it becomes known in suitable markets. There would appear to be no limit to the catch of salmon.

"*Oulachans or Houlicans*.—This small fish, something about the size of a sprat, appears in the rivers of British Columbia and about certain estuaries on the coast towards the end of April. Their run lasts about three weeks, during which time they may be captured in countless myriads. Eaten fresh they are most delicious, and they are most excellent packed in a salted or smoked form. This fish produces oil abundantly, which is of a pure and excellent quality, and which, as held by some, will eventually supersede cod liver oil. This fish is caught with a pole of about ten feet in length, along which are arranged, for five feet at the end, nails like the teeth of a comb, only about an inch and a half apart. The comb is thrust smartly into the water, brought up with a backward sweep of the hands, and is rarely found without three or four fish impaled on the nails. I have seen a canoe filled with them in two hours by a couple of hands.

"*Cod*.—Several species of cod are found in the waters of British Columbia, which are excellent both fresh and cured. It has been often asserted, I cannot say with what truth, that the true cod is found on this north-west coast. That, however, remains to be proved.

"*Herring*.—This fish also abounds during the winter months, and is of good sound quality. It is largely used in the Province, both fresh and smoked, and nothing has been done in the way of export.

"*Halibut*.—Halibut banks are of frequent recurrence in the inland waters of this Province. The fish attain an enormous size, and are caught by deep sea-lines. They are only used in the Province at present. They are of first-rate quality, and an excellent article of food.

"*Sardines*.—Are always found among herrings. I cannot state if they are precisely the fish known to commerce under that designation, or in what quantity they exist; but they are firm in flesh and excellent in flavor.

"*Anchovy*.—This fish is only second to the oulachan or houlican in its abundance. During the autumn it abounds in the harbors and inlets, and may be taken with great ease in any quantity. Eaten fresh, they have rather a bitter flavor.

"*Haddock*.—This fish, called in the country 'mackerel,' to which however it has no resemblance, is a great favorite both fresh and cured. It is caught in the winter months, and when smoked forms a luxurious addition to the breakfast table. I am of opinion that a very large trade will be done some day in exporting this fish to the southern ports of America, where fish is highly valued in a smoked or cured state.

"*Dog-Fish*.—This species of fish can be taken with great facility with a line and hook in almost any of the numerous bays and inlets of this Province. The oil extracted

" from them is obtained in abundance and is commercially of much value. It is produced in moderately large quantities by the Indians, and exported.

" *Oysters*.—Are found in all parts of the Province. Though small in their native beds, they are finely flavored and of good quality. When, in course of time, regular beds are formed, and their proper culture is commenced, a large export will no doubt take place both in a fresh and canned state. There is a large consumption of oysters in " cans on the Pacific coast."

EXTRACT FROM REV. M. C. LUNDIN BROWN'S PAMPHLET ON BRITISH COLUMBIA.

(Published 1863.)

No coasts or rivers are more abundantly supplied with fish than those of British Columbia. These are so numerous and so varied that to become thoroughly acquainted with their habits would almost involve the study of a life-time. Taking them in their order, the first fish that visit our shores are the herrings, that come in shoals into the harbors in the month of March. The Herring caught in Burrard Inlet is small, but good. There are larger and finer fish, equal indeed to those of our own seas, in the Gulf of Georgia, were there only skilful fishermen to catch them. Next, in the month of April, come the famous houlicans. They enter the river in millions, and their presence is at once made known by the sea-gulls which wheel above the shoals, and dart about among them for their prey, startling the usually still Fraser with their shrill cries. The houlican is somewhat larger than the sprat, and is a very delicate and delicious fish, so full of oil that it is said those caught in the north will burn like a candle. There can be little doubt that they would make excellent sardines; they could be preserved in their own oil.

The salmon begin to enter the river in March, and species after species continue to arrive until October, the successors mixing for a time with the last of their forerunners. There is a greater degree of certainty in periodical arrivals of each kind in this stream, than at the coast and islands.

The most valuable kind, the Silver or Spring Salmon, is sure to make his appearance. It is impossible to say how many species there are. During the summer of 1861, five or six different kinds passed up the Fraser to a greater or less distance from the mouth. A considerable portion of them (chiefly those of the silver and hook-bill species), make their way up the river to a distance of a thousand miles, even forcing themselves up the streams on the sides of the Rocky Mountains. With such rapidity do they travel, that they have been known to reach Lilloet within ten days of their arrival at the mouth of the river.

Many perish on their toilsome journey; faint and weary they will not pause to turn back, but press onward and upward, battling still with the mighty current, until at length exhausted with the contest, they are driven ashore to die.

Their grand object is to propagate their species, and an instinct impels them to deposit their spawn in the head waters of the stream, whereby they fulfil the very design of Providence, supplying food on their way to thousands of human beings in the interior.

The spring or silver salmon begins to arrive in the river in March, or early in April; it is most plentiful in June, and by the early part of July has mostly passed up the river. It is a remarkably fine fish, weighing four to twenty-five pounds; it has been known to reach as high as seventy-two pounds. The fish sent to the exhibition of 1862 weighed forty pounds.

Of those that arrive first, the greater portion are red, the next are red and white (the flesh of the back above the side lines red, belly white,) the last are principally white. This fish is easily cured, and stands well at market.

The second kind arrives in June, continuing till August, a small handsome fish, back green, belly white, flesh red, average size five to six pounds, easily cured, and brings the

highest price at market. The third, coming in August, weighs on an average seven pounds,—also an excellent fish.

Next, the hoan or humpback salmon, which comes every other year, arriving in August and remaining until winter, size six pounds, seldom fourteen pounds. The male has a humped or arched back, and hooked upper jaw, the back is covered with skin, the belly with small scales. The hoan is not much esteemed when pickled, but dried and smoked it does well.

The fifth is the hookbill, a hideous animal, which arrives in September, remaining until winter, when many of them return to the sea (size twelve to fifteen pounds, they even attain to forty-five pounds) : the flesh is white, the female is without the extraordinary hooked snout and teeth, which characterises the male (not edible.)

The smelt arrives in the Lower Fraser early in spring, and after spawning returns to the sea.

An excellent trout is caught in the Lower Fraser, weighing seven and eight pounds; a smaller one, of three or five pounds, abounds in its tributaries. Twenty mountain trout were recently caught in a stream near Hope, whose aggregate weight was 146 pounds; two of them weighed eleven pounds a piece. Trout of various species are found in most of the lakes, rivers, and streams of the country.

Nor is the royal fish wanting in these waters. The sturgeon abounds in the rivers and lakes throughout the year; he has been found as far up as Fraser's Lake and near the Rocky Mountains. In winter he retires to the bottom in deep water, and sometimes goes out to sea to return in spring. They attain a size ranging from 100 to 500 pounds and upwards. The female is the larger—as she lies in the deep water she is rarely caught, hence the comparative rarity of caviare, which is made from her roe. A female sturgeon contains great quantities. From one killed in the Fraser recently, a bushel was taken. The flesh also of the sturgeon is by some considered good, when properly cooked.

It is believed that there are extensive cod-banks in the Gulf of Georgia.

In the northern seas whales and seals abound. Indeed, the extent and variety of the fisheries of British Columbia are immense.

Oysters abound in Burrard Inlet, good, but small—they only require a little care—transplantation, feeding,—to equal those for which Britain has so long been famous.

It is evident that in these fisheries British Columbia possesses a source of immense wealth. Her countless salmon (to speak of them alone) must form one day a very important article of export. Unfortunately no one has as yet taken up this branch of trade. Here, as elsewhere, it is capital that fails. The process of curing is a work of care and time, but there must come ere long to these shores men of practical knowledge and capital sufficient to give this business a start, and there is no fear that a market will be wanting. In California there is a good market, for her own rivers do not supply all the salmon she needs; so too eventually, no doubt, the colony will be able to export its fish to the Sandwich Islands, Australia, and New Zealand, perhaps even to England.

APPENDIX R.

EXTRACT FROM GOVERNMENT PRIZE ESSAY,

BY ALEXANDER C. ANDERSON, 1872.

NATURAL PRODUCTIONS—FISH.

As may be surmised from the enormous coast-line, and the great extent of the inland waters, the fish of British Columbia enter largely into the consideration of her resources. Of all the varieties frequenting the inland waters, however, salmon is the most important; and, as it will require a longer notice than the rest, we reserve it for the last. The varieties of trout, in the next place, demand attention; and for want of more legitimate nomenclature, they will in most cases be distinguished by the native names, adopting those of the Tâcully of the Upper Fraser, to the writer the more familiar.

The *Peet* is a red-fleshed trout, frequenting the larger lakes, such as Stuart's and Fraser's. It grows to a great size, frequently exceeding 20lbs. in weight, and in some positions, I have been assured, weighing as much as forty, though I have never myself seen any nearly so large. They are usually caught with hooks, baited with a small fish, during the season of open water. In early spring the natives catch them by making holes in the ice, and roofing them over with pine boughs so as to exclude the surface-light. In this way, the fish, attracted by a lure, is readily detected and speared.

The *Shâ-pai* is another variety, equal in all respects to the last, but differing in appearance, its skin being marked with faint orange-colored spots, and the flesh having a yellowish tint.

The *Peet-yâz*, or salmon-trout, resembling generally the trout caught elsewhere. There are, however, several varieties, differing in size and quality as well as appearance, according to their habitat.

The *Talo-yâz* (*i. e.* little salmon) is a peculiar variety of trout, of excellent quality, confined to certain lakes of the Upper District, and found, I think, in the Great Okinâgan Lake—a sheet of water abounding also in the larger species.

In addition to the hook and spear, weirs are employed to capture the various descriptions of trout as they enter the rivers from the lakes to spawn. The gill-net, too, set in favorable positions, is employed for the smaller varieties. The artificial fly and the spoon-bait, which the angler bent on sport would employ, were of course unknown to the native fishermen, whose devices I have mentioned.

The white-fish (*Coregonus Alba*), by many esteemed the prince of fresh-water fish, found generally throughout the northern continent, is common to most of the lakes in the upper part of British Columbia. It varies very much in size, and no less in quality, in different localities: a variation arising, doubtless, from the nature of their food. Thus the fish produced in Fraser Lake, though no larger, are in quality far superior to those of the neighbouring lake of Stuart; while those of the smaller lake of Yoka, in the depression of the coast-range between the latter lake and Babine, are superior to both. Far excelling these again are the fish caught in a small lake near Jasper's House on the Athabasca, a little outside of the northern frontier of the Province. The white-fish of British Columbia probably average from two to three pounds only: elsewhere, in parts Eastward of the Rocky Mountains, they are found much larger.

The Loche (*Gallus Barbatula*), called also the "fresh-water cod," is found commonly in the lakes and rivers. The liver, like that of the true cod, is the sole or chief depository of its fat. A fish, on the whole, of very little mark.

The Pike or jack-fish, common on the East side of the Rocky Mountains, is not found in the British Columbia waters; and, I need not add, is not regretted.

There are immense numbers of Carp of several varieties. These, when they enter the streams from the lakes to spawn, commencing in April, are caught by the natives with ingenious weirs, and sun-dried in vast quantities.

This Sturgeon of British Columbia (*Acipenser transmontanus* of Richardson) differs widely in all respects from the common Sturgeon of the Atlantic (*A. Sturio*). This noble fish is common both to the Columbia and Fraser River, but does not by the former stream penetrate to the British Columbia frontier—interrupted, apparently, by the Kettle Fall at Colville, near to which point some have been known to reach. The fish appears in Fraser River in early spring, following the shoals of a certain small fish, called by the natives Oolâ-han, as they resort to the lower parts to spawn. The Western Sturgeon attains an enormous size: in the upper parts of Fraser River, above Stuart's and Fraser's Lakes, having been caught weighing as much as seven or eight hundred pounds. These fish do not, there is reason to believe, always return to the sea, but, finding abundant food in the upper waters, continue to dwell and propagate there, frequenting chiefly the neighbourhood of the two lakes mentioned, and probably other localities. Unlike the Salmon, which commonly deteriorate as they ascend, the Sturgeon conversely improve, and are invariably fatter when caught in the upper waters than in the vicinity of the sea. On the Lower Fraser these fish are caught by the natives in a singular but very efficacious manner. A canoe, manned by two persons, one of whom acts merely to keep the light vessel in position, is suffered to drift along the deepest channel. The fisherman, seated in the bow, is armed with a jointed staff which may be lengthened at pleasure, and to the end of which a barbed harpoon attached to a cord is loosely affixed. With this he feels his way, keeping the point of his weapon constantly within a short distance of the bottom. The fish, slowly swimming upwards, is detected by the touch, and, instantly struck, is afterwards readily secured. In the Upper Fraser the bait is chiefly employed, but in the larger eddies strong nets are found very effective. At the effluence of Lakes Stuart and Fraser, near which the Hudson's Bay's Company's posts are situated, long stake-nets are set during spring and summer, by means of which a fish is occasionally caught, the more highly prized for its comparative rarity; for while the sturgeon grows to larger dimensions in these vicinities, it is very much rarer than in the lower parts of the river.

The salmon entering Fraser River are of several varieties, making their appearance successively at various periods from early spring till the end of summer. As a general rule, it may be asserted that the earlier shoals are the stronger and richer fish. For clearness' sake I shall confine my remarks chiefly to two principal varieties, called by the lower Indians *Saw-quâi* and *Suck-kâi*, by the upper Indians *Kase* and *Tâ-lo*, by which latter names I shall distinguish them. The first, equal in size and quality to the large salmon of Europe, enter the Fraser in May; the latter, a very much smaller and not so rich a fish, arriving a month or so later. In the lower part of the river the natives secure them in large quantities by means of drift-nets. Higher up, scoop-nets are chiefly used, which are wrought from stages suspended from the rocks bordering on rapid currents; and above Alexandria the Tâcully tribe construct ingenious weirs for their capture. The *Kase*, entering the river as above noted in May, are caught at Alexandria in the beginning of July, though a shoal, resorting to a small tributary called the Nascôh, passes upward at an earlier date. The *Tâ-lo*, arriving at Alexandria later, never reach the neighbourhood of Stuart's or Fraser's Lake before the first week in August; preceded shortly by the *Kase*.

To those conversant with the habits of the European salmon it is superfluous to mention that each shoal as it ascends strives perseveringly and with unerring instinct to reach, for its spawning-ground, the spot where itself was generated. The course of the

Kase, apart from the minor shoals which may diverge to their native tributaries by the way, may thus be indicated from the forks of the *Thle-et-leh* (Fort George) upwards. A division of the grand shoal here takes place; one detachment ascending the Eastern or Tête Jaune branch, the remainder ascending the Western or Stuart branch, as high as the point called the Forks of Chinlac, sixty miles above *Thle-et-leh*. A further subdivision here takes place; one portion continuing to ascend the Stuart branch, nearly to Stuart's Lake, which, however, they do not enter. The other detachment ascends the Fraser Lake branch, turning off short of that lake, and continuing its course up the large tributary there falling in, called the *Nejâh-côh*, on which its spawning grounds are situated.

The *Tâ-lo*, its vanguard reaching *Thle-et-leh* in company with the rear-guard of the *Kase*, do not enter the Tête Jaune branch, but continue undeviatingly up to the Forks of Chinlac before mentioned, where a separation takes place. One detachment, continuing up the Stuart's branch, passes through Stuart's Lake on its way to Lake Tat-lâ; the other following up the other branch does not, like the *Kase*, enter the *Nejâh-côh*, but passing on to Fraser Lake, continues through it, and pursues its route by the tributary stream towards the Lac de Français, on the inner verge of the Coast Range, and opposite to the Southern heads of the Skeenâ.

This process, actuated by an infallible instinct, goes on undeviatingly from year to year; and though at times there may occur, from inscrutable causes, a partial failure of the supply, the periods vary but little, and the regularity of the system is never interrupted.

In the Appendix will be inserted a brief notice of several other varieties of the salmon resorting to Fraser River, some of which, diverging up the Thompson's Branch and other tributaries, do not ascend to the Upper Fraser; and I will now advert to a peculiarity in their fate, which, strange as it may appear, distinguishes the majority from all other known varieties of the genus. There seems to be no question that the shoals resorting to the smaller streams debouching upon the Coast return, after performing their procreative functions, to the sea, as elsewhere. Indeed I am disposed to think that those varieties which resort to the smaller tributaries of the Lower Fraser and the Columbia, probably fulfil their course in like manner. But as regards the main body, resorting to the distant head-waters of those great rivers, it may be incontestably asserted *that they never return to the sea*. At first incredulous of this asserted fact, subversive of all my preconceptions on the subject, it was only after the observation of years, under circumstances which seem to preclude the possibility of error, that I was constrained to arrive at the same conclusion. Without prolonging my notes by entering on the particulars of these observations, I may confidently repeat the assertion that, the function of spawning over, the fish, still struggling upwards, die of exhaustion. Upon the main, or Eastern branch of the Fraser, which, as I have said, is frequented only by the large variety or *Kase*, the strongest of those fish attain as high as Tête Jaune's Cache, between 700 and 800 miles from the sea; there their further progress is arrested by a steep fall. At the foot of this fall, and elsewhere below, the stream swarms, in September, with dead and dying fish. The once brilliant salmon, no longer recognisable save from its general form, may here be seen, the function of spawning completed, almost torpid from exhaustion; its nose in many instances worn to the bone, its tail and fins in tatters, nay its very flesh in a state of half-animated decay, either helplessly floating in the eddies, or with momentary exertion still struggling to ascend. In no case is the smallest disposition to descend perceptible; its course is still onwards, until, dying at last, it floats with myriads of others to be cast upon the beach, attracting to a hideous banquet a multitude of bears and other carnivorous beasts from the adjacent mountains. In like manner perish the other shoals upon the head waters of the several streams to which they resort.

I am not, however, to write a treatise on natural history, but to confine myself to such notes as may tend practically to a useful end. Nevertheless I may be pardoned if I have dwelt passingly upon a fact which, if for its singularity alone, is worthy of record. Before quitting this branch of the subject, too, I may supply some memoranda which will convey an idea of the productiveness, in favorable years, of the salmon-fisheries on the

Fraser. At the Post of Fraser's Lake, in 1836, 36,000 dried salmon were purchased and stored for use; and at other posts proportionate quantities were likewise secured out of the superabundant provision made by the natives. The year in question, it is true, was one of great abundance. At Fort Langley (some fifteen miles above New Westminster) large quantities were formerly salted every year by the Hudson's Bay Company, as well for home consumption as for exportation. In some seasons between two and three thousand barrels were thus provided; the fish procured by barter from the natives. For some years past private fisheries have been established, where large quantities are annually cured; and recently an establishment for preserving the fish in cans for exportation has been started, which promises to be very successful. The chief markets are South America, Sandwich Islands, and Australia.

We may here mention cursorily that, while the salmon, of some particular variety, is common, perhaps, to every stream issuing along the coast from the coast range of mountains, as well as to the many tributaries of the Fraser, it is not found upon the waters of British Columbia tributary to the Peace River, or indeed to any of the streams flowing Eastward from the Rocky Mountain boundary of the Province. Thus Peace River, and its co-tributary to the great McKenzie, the Athabasca, as well as the Saskatchewan, are destitute of this valuable fish. With our knowledge of the habits of the genus, it would be a facile undertaking to introduce the fish artificially into these rivers, by spawn taken from the western watershed; but it is questionable whether the extreme length of the two first named streams, at least, in their course to the ocean, might not prove an insurmountable obstacle to their successful propagation. Nevertheless, it is possible that the attempt may at some future day be made.

A very valuable fish entering Fraser River to spawn in early spring, is the *Thaleichthys* (or preferably *Osmerus*) *Richardsonii*—locally known as the Ooláhan. It appears in immense shoals, and is caught either with the scoop-net, or, like the herring on the sea-board, with the rake. This simple device is merely a long light pole, flattened in one direction so as to pass readily through the water, and with the edge set towards the lower extremity with a row of sharply pointed teeth. The fisherman, entering the shoal, passes the implement repeatedly through the water, with a rapid stroke, each time transfixing several fish. Thus a copious supply is soon secured. The Ooláhan is, in the estimation of most people, one of the most delicious products of the sea. Smaller than the herring, it is of a far more delicate flavor; and so rich that, when dried, it is inflammable. This fish is not confined to Fraser River, but frequents likewise the Nass, a large stream issuing on the frontier between British Columbia and Alaska; another stream debouching into Gardner's Canal; and probably other rivers along the coast. Those caught at the mouth of the Nass are of a quality even richer than those of Fraser River. The natives, who assemble there in great numbers in spring to prosecute the fishery, besides drying them in large quantities, extract from the surplus a fine oil, which is highly prized by them as a luxury, and forms a staple article of barter with the interior tribes. This oil, of a whitish color, and approaching to the consistence of thin lard, is regarded by those of the Faculty, who are acquainted with its properties, as equally efficacious with the cod-liver oil so commonly prescribed; and it is said to have the great advantage of being far more palatable. With the exception of a few scores of casks salted annually for local sale, and a quantity prepared like the red herring, this fish has not yet, I believe, been systematically cured, or become an article of exportation. There can be no question, however, that, when more widely known and properly prepared, it will be the object of much extraneous demand.

As already remarked, all the larger streams along the coast abound with salmon. The Skeenâ, before mentioned, discharging at Port Essington, and the Bilwhoolâ, flowing into the North Bentinck Arm of Milbank Sound, may be specially noted; though equalled, doubtless, by many others. The minor streams swarm during the season with a small variety, known locally to the northward as the *Squâ-gan*; inferior in richness to the larger fish, and therefore not so well adapted for salting, but nevertheless of excellent quality. I may here mention as a peculiar trait that the salmon of this coast—at least

those ascending the larger rivers such as the Columbia, the Fraser, and others—unlike their European congeners, do not rise to the artificial fly. In the inlets around Vancouver Island and elsewhere, while they remain in the sea, and at all seasons of the year, they are readily caught by trolling. The natives employ generally herring as the bait; but the spoon-bait is found by amateurs to be equally efficacious. It will be inferred that the fish occupy continuously the narrow waters, adjacent probably to the entrance of the streams of their nativity, until they finally re-enter the rivers to spawn; and, admitting the apparently unquestionable fact that some varieties, at least, never return to the sea, it follows as a consequence that the whole term of their existence, from the time when the fry descend the rivers until their final return to spawn, whatever the interval may be before they attain maturity, is passed in these retreats. The quality of the winter fish, caught in these localities in their full perfection, is incomparably fine. The size varies, apparently, in different positions. In the Saanich Arm, for instance, a little to the north of Victoria, the weight may vary from fifteen to thirty pounds or more; but it was mentioned about a month ago (in March) in the *British Colonist* newspaper, that a fish caught with the bait in the outer harbor of Victoria had been brought to market, the weight of which was fifty-five pounds. Fish of this size are, however, comparatively rare. Repeated examination leads me to the conclusion that the herring is here the favorite food of the salmon. It is the most successful natural bait; and I have almost invariably found one, and frequently several, of these fish, in the stomachs of ordinary sized salmon; but smelts, and occasionally prawns, are also found. It may be added that, while the salmon refuses the fly or any other bait after entering the fresh water, the closest examination of the intestines of the ascending fish does not, as far as my experience goes, reveal upon what nutriment they then subsist. A mucous substance alone is discernible; and it must be inferred that minute *infusoria*, the nature of which the microscope might probably detect, is at this period their sole source of nourishment.

But we have dwelt sufficiently on this theme, and must proceed to notice the other products in which these waters are notably prolific. And first of the herring. This valuable fish resorts in prodigious numbers, at the spawning season in early spring, to the bays and inlets of the Gulf of Georgia, and elsewhere generally along the coast. The method by which the natives capture them at this season, mentioned before while treating of the Oolá-han, suggests an idea of their scarcely conceivable numbers. In appearance they do not perceptibly differ from the European variety, though rather smaller. At the period in question the quality of these fish is inferior; but when caught during their prime, with the net, on the banks which they permanently frequent, they are, to my conception, fully equal to their congeners of the Atlantic sea-board. This remark applies at least to some of the localities bordering on the Gulf of Georgia; and I fancy is generally true. The spawn, attached to sea-weed, or to branches purposely sunk in the shallows for its reception, is gathered in large quantities by the natives, and dried for food.

The Cod caught in the narrow waters are inferior to the Atlantic fish. There are, however, certain outlying banks upon which they are found abundantly, of a quality, it is said, approaching, if not fully equal to, the last.

The Halibut attains upon this coast a very high degree of perfection. On the outer shore of Queen Charlotte's Island, especially, it is found of a very large size; frequently exceeding 100 pounds in weight, and not unseldom, I am assured, of twice that size. Caught with the hook, these fish are dried in large quantities by the natives, especially of the more northerly parts of the coast.

To these may be added the Smelt, the Rock-cod, the Flounder, Whiting, and a host of others, with which, in season, the markets in Victoria are constantly supplied—clisfy through the industry of Italian fishermen, who appear here to enjoy a prescriptive monopoly of the trade. Oysters are very abundant. Those dredged near Victoria are of small size, but well flavored; northward, in the vicinity of Comox, a larger sample is procured. Of Cockles, Mussels, and other shell-fish there is a copious supply. Crabs and

Prawns are not wanting ; but there are no Lobsters, save a small kind found in fresh water streamlets. Oil-producing fish, such as the Ground-shark and the Dog-fish, are common to the whole coast ; the latter so abundant as to give lucrative employment to many fishermen and afford a boundless resource prospectively to others. Of the Phocidæ the Hair-Seal is the most numerous ; while the Fur-Seal, the Sea-Lion, &c., are found chiefly on the outer shores.

The Whale fishery has of late attracted much attention, and has been prosecuted with a certain degree of success ; though, from want of experience probably, less than one might have been justified in expecting. On the outer coast Whales of the largest description are numerous ; which by the native inhabitants, who combine in parties for the purpose, are harpooned and captured by an ingenious process which it is unnecessary here to describe. In the inland waters of the archipelago a variety known as the Hump-back Whale is very numerous. These yield from 30 to 50 barrels, or more, of oil ; and so far have been killed by the whaling parties with the harpoon-gun and shell. Many wounded victims, however, through some mismanagement of detail, or perhaps unavoidably under the system, have thus escaped. The system, however, from its assumed wastefulness, is, I am informed, declared illegal by the general laws of the Dominion ; in which case it will of course be interdicted, and give place to other schemes less liable to objection. On the whole the pursuit of the Whale in these waters, vigorously prosecuted, with a competent knowledge of the business, will doubtless prove ere long a lucrative and extensive branch of the Provincial industries.

APPENDIX S.

EXTRACT FROM BISHOP TACHÉ'S SKETCH OF THE NORTH WEST.

FISH.

The fourth class of vertebrated animals is, by comparison, much the poorest here. Of the eight orders composing it, four are entirely wanting. Some are represented by only one family; several of the families have only one genus; and the majority of the genera have only one species. But the limited variety does not deprive Ichthyological studies, here, of importance. To some extent, the abundance of species makes up for the poverty of the class. Our lakes, and some of our rivers, are really like natural *vivaria*, or according to our Half-breeds—"they are the storehouses of the good God."

ACANTHOPTERYGII.

The first order of the series of osseous fish is composed of such as have spinous dorsals, and is represented here by only one family, the other six being entirely wanting. We have neither Ribbon fish, Gopre's Wrasse, Scombers, Tons, nor Mackerel. Nor do the families to which the Bandouillères and Bouches-en-flûte belong, frequent our waters. The only family of the order that we have is the Percoidæ, including, here, six genera and eight species:

- The American, Perch—*Perca Flavescens*.
- The American Sandre—*Lucio-perca Americana*.
- The Northern Pomotis—*Pomotis Vulgaris*.
- The Bear Lake Bull-head—*Cottus Cognatus*.
- The North Georgian Bull-head—*Cottus Polaris*.
- The Six-horned Bull-head—*Cottus Hexacornis*.
- The Tiny Burnstickle—*Gasterosteus Concinnus*.
- The Malashegané—*Sciæna Richardsonii*.

Of these eight species, four are of no importance to us: these are, the three bull-heads and the burnstickle; the remaining four, on the contrary, are a great resource. It is true that the Perch and the Pomotis are not found in many waters, but in return the Sandre (Dore) is found in nearly all our lakes and rivers, and add greatly to the stock of food in the country. The Malashegané is not found in the highest latitudes; it prefers the southern. Like the Maigres (or true *Sciæna*), this fish has the power of producing a noise like the distant beating of a drum, deep in the water.

It is a good table fish, and is somewhat like turbot, of which it has all the firmness; the Red River breeds an immense number of them, and we are very glad to have them.

MALACOPTERYGII ABDOMINALIS.

This order is the most numerous of the class, and there are species here of each of the five families composing it.

- I. The family of *Cyprinoides* supplies us with five distinct species:
 - La Quesche—*Cyprinus (Abramis ?) Smithii*.
 - The Grey Sucking Carp—*Cyprinus (Catostomus) Hudsonius*.

The Red Sucking Carp—*Cyprinus (Catastomus) Forsterianus*.

The Piccouon—*Cyprinus (Cat-stomus) Sueurii*.

The Saskatchewan Dace—*Cyprinus (Leuciscus) Gracilis*.

At the mention of Carp, the people of other countries figure to themselves a good and fine fish; but, here, the impression is quite of another character. When I first came into the country, I talked with gusto about soup à la Carpe;—an old man who had never tasted soup à la Carpe, but who considered he had, in his time, eaten rather too much of the fish, could not agree with me, and said significantly: "It is useless to talk about it; carp is but carp." I did not at first understand the reason for his dislike: later I had the opportunity and leisure to appreciate the correctness of his opinion. When one has but one kind of food to eat, when, for example, it is necessary to be satisfied with carp,—boiled, perhaps in the water it was born in,—without sauce or salt, or addition of any kind—one quickly tires of the fish, and when this is frequently repeated the simple name of the animal suffices to excite repulsion. The head of the carp is, beyond comparison, preferable to the body;—but many heads would be required to satisfy an appetite excited by work and fatigue, and one soon tires of sucking these small bones. All the species abound in this country, and particularly the Red and Grey Suckers. This fish spawns in the month of June, and, several weeks previously, they are seen and killed in great numbers. When spawning is over, particularly in shallows on stony river beds, they assemble in such numbers that their crowded dorsal fins, showing above the water, make it appear as if all the fish were artificially attached to one another: and they can then be killed with a stick. It is easy to understand that, in such circumstances as these, Indians cannot absolutely starve, but they invariably look upon the necessity for feeding on Carp as starvation. The Montagnais are very fond of raw fish eyes, and as soon as they capture a fish they tear its eyes out and eat them. The vitality of the Carp is so great, that many true tales about it would be regarded as fabulous. A carp may be frozen, thawed and then decapitated, and yet not die immediately; and they are seen to strike with their tails, and jump about for a long time after they have suffered such mutilation as would be apparently most likely to quiet them, and to cause their immediate death.

II. The second family of the order that I am now dealing with is that of the *Esocida*. Of these we have:

The Common Pike—*Esox Lucius*.

The Maskinongé—*Esox Estor*.

The two kinds of pike are a good deal like one another. The latter is generally the larger, its color is paler, its scales less oval, and its flavor being milder is more palatable. The pike is the tyrant of fresh water; it swallows other fish, as they do insects. The voracity of the pike benefits the hungry, for it takes a bait set under the ice more readily than any other fish. In times of want the unfortunate sufferer often finds wherewith to satisfy his hunger in a pike that, urged, probably by similar necessity, has taken the deceptive bait with its perfidious hook. Providence, who has so severely tried us this year has given a proof of His pity in the unusual take of pike at Lake Winnipeg and Manitoba. The large kind make an excellent dish when there is seasoning to relieve its flavor, and to modify a peculiar taste, and even odor, probably unknown elsewhere, but unmistakable here. Carp-like, pike are sought after only when all other supplies fail. There are pike in all our lakes, and in some of them magnificent fish. I have weighed some of thirty pounds, and I believe I have seen larger ones. Pike swallow very large fish without doing them the least damage. I have often seen as many as two white fish in the stomachs of pike, and these, together, did not weigh less than five or six pounds. The numerous sharp teeth of the pike inflict a severe wound, not only when the animal bites, but when by accident, and after they have been detached, one pricks oneself.

III. The family of *Siluroideæ* supplies us with only one species:

The Mathemag—*Silurus (Pimelodus) Borealus*.

Our Brill (*bubue*) or Cat-fish is little likely to gain favor by its appearance; some Indians call it "Ugly fish," but it is rich, plump and well-flavored. An ordinary cat

fish weighs from five to twelve pounds. It is much sought after by those who are familiar with its good qualities. Like all of the same family this fish is devoid of scales. Its broad, flat, and nearly square head has earned for it the name cat, as its eight beard appendages (barbes) have procured it the name barbue. The cat-fish is not found, I believe, to the north of the Saskatchewan. It swims in the lakes near Red River, and the affluents of that stream, and also in some of the tributaries of Lake Winnipeg. The cat-fish (or *Land Cod*) is caught with set lines.

IV. The *Salmonidae* is by far the most important family we have. It includes the following species:

- The Common Salmon—*Salmo Salar*.
- Ross's Arctic Salmon—*Salmo Rossii*.
- The Copper-mine River Salmon—*Salmo Hearnii*.
- The Long-finned Char—*Salmo Alipes*.
- The Angmalook—*Salmo Nitidus*.
- The Masamacush—*Salmo Hoodii*.
- The New York Char—*Salmo Fontinalis*.
- The Namaycush—*Salmo Namaycush*.
- The Inconnu—*Salmo Mackenzii*.
- Back's Grayling—*Salmo (Thymallus) Signifer*.
- The Lesser Grayling—*Salmo (Thymallus) Thymalloides*.
- The Attihawmeg—*Salmo (Coregonus) Albus*.
- The Tullibee—*Salmo (Coregonus) Tullibee*.
- The Round-fish—*Salmo (Coregonus) Quadrilateralis*.
- The Bear Lake Herring Salmon—*Salmo (Coregonus) Lucidus*.

The foregoing enumeration shews that this country is not without representatives of the important family *Salmonidae*, and, when it is considered that fifteen out of our thirty-nine species of fish are of this kind, it is easy to understand that their relative importance is even greater than their absolute. All the *Salmonidae* are numerous, and many species furnish us with the best table fish. The Arctic rivers supply us with three species of salmon properly so called. The common salmon ascends the streams flowing into Hudson's Bay, not perhaps in the incalculable abundance of the rivers of New Caledonia, but nevertheless in sufficient quantity to be a valuable resource.

The salmon called after the celebrated navigator Ross, are so plentiful in the Arctic rivers that as many as three thousand three hundred and seventy-eight have been taken at one haul with a net. This number is all the more remarkable when it is considered that the fish are of good size,—measuring as much as thirty-three inches in length, and often weighing ten pounds.

The Copper-mine River salmon are as numerous as the preceding. A poor woman, who was nearly blind, was fishing at the foot of the Bloody Falls (*La chute Sanglante*.) This old Esquimaux was murdered by Hearn's cruel companions—who had, a short time previously, also killed her unfortunate relations. The wretched assassins then took the old woman's spear, or harpoon, and continued to fish with it for salmon. It is in reference to these exceptional circumstances that this species (*Hearnii*) of fish is first mentioned. This salmon must be peculiarly palatable for the intelligent and tender-hearted. Hearne concludes the account of the horrible butchery committed by his companions in his preface, by saying: "When the Indians had finished their ruffianly act (*acte de brigandage*) we sat down and made a good meal on fresh salmon." It must be confessed that this sentence is in exquisite taste, and savors, at all events, of salmon.

Besides these three species of salmon, the family supplies us with five kinds of trout. Two of them are limited to Arctic streams, and the others are found in our lakes and clear waters generally, but particularly in such as are rock bound. This fish, like all the others, varies in flavor according to the place where it is found, and the season when it is caught. It may be excellent when taken from one lake, and detestable from another, much sought after in summer, and avoided in winter. The Namaycush is a spleen-

did fish. At Great Slave Lake its weight varies from twenty to forty pounds. I have never seen them so large as to satisfy me on this point, but I see no reason to doubt the evidence of the respectable people who make the statement.

Next comes the Inconnu. This name was given to the salmon of Mackenzie River by *voyageurs* who did not recognize its appearance or flavor. The name has since been generally used, and is even Anglicised. This salmon is intermediate between the Trout and White Fish, and is peculiar to Mackenzie River basin. It is not found elsewhere. It is plentiful in Great Slave Lake, and ascends the river of that name, up to the falls which interrupt navigation. It weighs from five to fifteen pounds. It is not so much thought of as the other *Salmonideæ*, and those who eat it often say "it is only inconnu, in the same sense as they would say of a *Cyprinus* "it is only carp."

Two kinds of Back's grayling—the prettiest fish we have—sport in the little rapids of our mountain streams. They are also found in Cariboo Lake, and a few other places. These fish are not of so much importance as the others of the same family.

The Attihawmeg or White Fish (*Salmo Coregonus, Albus*) is the most interesting to us. This is hardly fish in the sense referred to above. Without exception, it is uncontestedly the most palatable of all our fishes, and is the only one which is tolerable as a sole food. The Attihawmeg is found throughout the country; the lakes—large and small, are nearly all frequented by them, and they providentially swarm in some of the little lakes, otherwise, without this resource, many parts of the country would be uninhabitable. I am entitled to speak on the subject, for I have lived for whole years on white fish as a principal food, and frequently the only one. It is not to be understood that living wholly upon one kind of dish is not tiring, but this particular fish does not pall, nor does it excite the aversion generally caused by all other kinds.

The white fish generally weighs only three or four pounds; but they are occasionally caught weighing as much as fourteen pounds, and in this case their flesh would delight the most experienced judges of this kind of food. Without dressing or sauce of any kind, these fine fish are much superior to any I have tasted elsewhere, even when most artistically cooked. The white fish spawns in autumn, and this is also the season for great fishing expeditions, although the fish is in its worst condition. The Attihawmeg, caught in autumn, are preserved in a very peculiar but simple manner: a frame work is set up, and on its top strong poles are laid at three feet apart. Small rods, rather longer than the space intervening between the poles, are next prepared. As the fish are thrown on to the bank, a hole is cut through their tail ends, and using this, ten are threaded on to each rod, thus forming what is called a *broche* (*a spit*) the ends of which are placed on two of the poles. The fish, now hanging head downwards, have their throats cut with a slash of a knife, to free the blood, and to allow water to escape readily.

The sharp nights at the end of October, assist to harden the fish, and to preserve them. When the season is not exceptionally warm, hung fish (*à la pinte*) is excellent. Of course the flavor is injured by prolonged heat, and naturally it is only in autumn that this process can be adopted.

The Tulibee is very like the White Fish; it is, however, inferior, and much less plentiful, and as much may be said about the round fish, one of the *Coregoni*, which takes its name from being less wall-sided than the preceding species.

The Herring Salmon, which is found in Bear Lake, appears to be intermediate between the Harengus and the Salmo.

V. The family of *Clupeoideæ* has two genera.

The Common Herring—*Clupea Harengus*.

The Nacacysh, or Gold-eye—*Hiodon Chrysops*.

The Common Herring frequents our Arctic sea, but the fishing does not assume the importance there that it does in other places.

In the southern part of the Department, the *Clupeoideæ* furnish us with a pretty little fish, the gold-eye, white and delicate. This little glutton is caught with hook and line, and also with small meshed nets made for them. The Nacacysh measures about

twelve inches ; it is very fine ; has a large mouth ; its large and shining scales give it a silvered appearance, and its extremely large eye, with a yellow iris, has won for it its English name " Gold-eye."

In some of our rivers there is another kind of fish which resembles the herring, and is, probably, the fresh-water herring ; and some other small fish that are found in shallows are, perhaps, marsh fish. I should experience great difficulty in classifying them or in indicating either their genus or species.

MALACOPTERYGII SUBRACHIATI.

Of the three families composing this order we have two here :

I. The Gadoideæ furnish us with two genera represented by only two species :

The Methy or Burbot—*Gadus (Lota) Maculosus*.

The Spotted Phycis—*Gadus (Phycis) Punctatus*.

Our Loche or Methy is not a fashionable fish, for the following is a common remark in this country : " How is it that you ask us to eat of it ; even dogs refuse it ?" It is a fact that dogs, however much accustomed to eat fish, will not touch this kind. For myself I have several times eaten it, and I found nothing in its flavor to justify aversion to it. It is not a delicate fish, but when dressed by an average cook, it is equal to the majority of river fish. I think it is the same kind as is called Queue de poisson in Canada. It may be truly said that this is not a pleasant fish to look at. Gorged with food, or full of roe, its naturally short body becomes inordinately enlarged ; and its tail, very much like that of an eel, matches very badly with the thick body. The Methy has scales, but they are so small, and so deeply embedded in gelatinous epidermis that they can barely be distinguished in very many specimens. This fish is a cause of great annoyance to fishermen in winter : it fixes itself with fishing lines in the most wonderful way, and entangles them most perfectly. When taken out of the water it alternately wriggles and straightens itself so as to make it a difficult task to unhook. Its smooth and sticky skin is so much colder than that of other inhabitants of the water, that the fisherman, who shivers for hours together in the intensest cold on the lakes, is not very happy when he finds a Methy on the line he draws from under the ice. They are generally thrown away to feed crows : only the roe and liver are retained. At the posts in the interior, the roe is pounded and made into a kind of biscuit, to which whatever name strikes the fancy is given. The liver, which is rich and delicate, is also made into food, unless it becomes necessary to extract the oil from it for lamps, by which one can only half see, and have, besides, anything but an agreeable smell.

The Spotted Phycis is like that of Canada, but is very rare, while the Methy is everywhere plentiful.

II. The second family of the third order includes two species :

The Stellated Flounder—*Pleuronectes (Platessa) Stellatus*,

The Arctic Turbot—*Pleuronectes (Rhombus) Glacialis*.

Two kinds of flat fish visit the mouths of Copper-mine, and some other rivers :—one of these is called Turbot from its resemblance to the European Turbot.

The family supplying these species does not, that I know of, make an appearance in any of our lakes. A similar remark applies to the family of *Discoboli*.

The fifth order—that of *Lophobranchii*—is also entirely wanting here : we have neither Pegasi, nor any kind of fish bearing shields.

The sixth and last order of osseous fish—the *Plectoganathi*—which nearly approaches to the cartilaginous class, in the hardy ossification of the skeleton,—is likewise unknown in these parts. Of course we have not got Sea-hogs, (*Herissons de mer*) Boursouffus and Sun fish in our inland lakes, and I am not aware that they frequent the Arctic Ocean.

The Second series of fish—the *cartilaginous chodopterygii*, wherever found, is less abundant than the preceding, but here, it is very much less so. Of the two orders that

compose the series, the one with fixed gills is not represented at all in this country. We have neither Sharks, Hammer-head, Saw-fish. These tyrants of the salt sea do not trouble our fresh waters. I suppose, too, that they do not like our frozen ocean. I have the same idea also about Ray and Lampreys.

STURIONIDÆ.

The seventh order—which is the first of the second series, or that with free gills,—comprehends two genera, or families, as follows :—

The Rupert's Land Sturgeon—*Acipenser Rupertianus*.

The Ruddy Sturgeon—*Acipenser Rubicundus*.

There are Sturgeon in North America as well as in Northern Asia. Not only does the Pacific Ocean send them in crowded shoals into the rivers flowing from this country, but our lakes are not without them. This large fish delights in a part of this territory : it willingly frequents Lake Winnipeg, and nearly all the important rivers flowing into and out of it ; there are some in the lower part of English River, but they do not ascend beyond the fall at Frog Portage, and they try in vain to get over Carp Rapids in Rapid River, a tributary of the Saskatchewan; so that the neighbourhood of Frog Portage is the northern limit to which they reach in the interior of the country. Nor are they found to the West of this point in the same latitude ; but, to the South and East they are generally distributed. In our great central basin they are found in abundance. There are very fine Sturgeon in Lake Winnipeg : I have seen them seven feet long and one hundred and fifty pounds in weight. The fish is excellent to eat : it furnishes a great deal of oil, and its air-bladder, simply dried, supplies the very useful isinglass of commerce.

The Ruddy Sturgeon is much smaller than the common sturgeon ; its head is more elongated, and the cartilages are more prominent.

Salt provisions are as yet not much used here, and salt is so dear that salting sturgeon has not hitherto been thought of ; but such a method of preserving them would be more profitable than the plan of merely drying some pieces adopted by the Indians.

APPENDIX T.

REPORT ON THE FISHERIES OF THE PROVINCE OF MANITOBA.

FORT GARRY, January 11th, 1872.

To the Honorable
The Minister of Marine and Fisheries.

SIR,—I have the honor to inform you that, in compliance with instructions received from the Department of Marine and Fisheries, upon my arrival here I at once endeavored to obtain, from such trustworthy sources as at this season of the year were within my reach, information regarding the Fish and Fisheries of the Province of Manitoba and of the North-West Territories.

The waters of the North-West may be divided into three systems: 1, The lakes and rivers which flow into Lake Superior; 2, The lakes and rivers which flow into the Hudson's Bay; 3, Those which empty into the Arctic Ocean.

In Neepigon Lake and River, and in some of the adjacent smaller streams which lie on the North shore of Lake Superior, lake trout and speckled trout are found. The former in fair quantity and of good size in the Lake, and the latter in very large quantities in the rivers and small streams. White fish are also found in this region, although they are neither so numerous nor of so large a size as those found in more Western waters. The brook trout are very plentiful, never having been netted in large quantities. They are only caught by the Hudson's Bay people and the Indians for their own consumption, and not for purposes of trade.

In the Lake of the Woods, Rainy Lake, and the waters of what is generally known as the "Lake Region," that is, the country lying between Lake Superior and the Eastern frontier of the Province of Manitoba, white fish are plentiful, so also are sturgeon, together with pike and coarser kinds of fish. These waters have been little fished, the country being but sparsely inhabited, and the traders and Indians who reside there only catching fish enough to supply their own wants. Lake trout are found in the Lake of the Woods and in most of the smaller lakes, more especially in Clearwater Lake, where they are found in large numbers and of fair average size.

We next come to that immense water system which finds an outlet in Hudson's Bay. This comprises—1st, The waters of the Red River, the Assiniboine and the Saskatchewan, with their tributaries, which, flowing into Lake Winnipeg, empty through Nelson River into Hudson's Bay; 2nd, The waters of the chain of small lakes and rivers which empty into Churchill River; 3rd, The waters of those less important but still considerable streams, which flow directly into Hudson's Bay at various points between James' Bay and Chesterfield Inlet.

Of all these waters it may be said that "they abound with white fish." Probably few persons in the Eastern portion of the Dominion have any adequate conception of the immense quantity of white fish found in the lakes and rivers of the North West.

The white fish (*Coregonus Albus*), or, as the Indians call it, the "Attehawmeg," of the North West, is a far larger and finer flavored fish than the white fish taken in more Eastern waters. It is generally caught with nets, seldom taking either natural or artificial bait. A white fish weighs from half a pound to ten or twelve pounds, the average weight being about four pounds. As a general rule it is understood that the coldest waters always produce the finest fish.

The white fish are caught in the autumn. Their time for spawning depends somewhat upon the temperature of the water they inhabit; but, as a general thing, they approach the shores of the lakes and rivers sometime during the month of October, and are then taken in great numbers.

It is impossible to arrive at any approximation as to the number of white fish taken annually. It may be safely computed, however, that from seventy to eighty thousand white fish are taken annually in Lake Winnipeg alone. The Hudson's Bay Company's servants at Fort Alexander take, on an average, thirty thousand annually, and when it is borne in mind that Lake Winnipeg is upwards of two hundred and forty miles in length, and that white fish forms a staple article of food with the Indians and half-breeds who live upon its banks, it may safely be estimated that from forty to fifty thousand more are taken by them.

A large number of white fish is also brought down from the lake, for sale at Winnipeg.

White fish are now bringing sixteen (16) shillings (English) per hundred, at the places where they are taken. Supposing, then, that eighty thousand per annum are taken in Lake Winnipeg, their money product may be set down at about £640 sterling.

When taken, the white fish are, for the most part, hung up in bunches of ten or a dozen each, and dried and frozen.

White fish are found in great numbers in Lake Manitoba. It is estimated that not less than one hundred and twenty thousand are annually taken in that lake. On the Little Saskatchewan white fish are found in the greatest numbers. At the fall of the year, when the fish come towards the shores, the Indians actually take them out in scoops; and last autumn, an Indian servant of the Honorable Mr. McKay caught one thousand white fish in this manner in twenty-four hours. Yet nowhere, not even in those waters where the white fish are most largely taken, is there any sensible diminution in the supply. In some places in Lake Winnipeg, indeed, which have been fished year after year, it has been found that the white fish have shifted their spawning grounds; but, in no lake or river of the North West do I hear that they are becoming scarce, or that they are more difficult to obtain than they were years ago.

At Lake La Crosse, near the Forks of the Athabasca, and in the series of small lakes near Fort Qu'Appelle, white fish are found in great abundance and of large size.

They are also found in Mackenzie River, the main outlet of the lakes and streams of the extreme North West into the Arctic Ocean.

There does not at present appear to be any necessity for the introduction of protective or restrictive measures in order to preserve the white fish. At some future time, however, as the population increases, it may become a matter of consideration for the Government, whether it may not be advisable to adopt some steps with a view to preventing any serious diminution in the supply, more especially as the white fish forms an article of food which is not only exceedingly popular, but is also, for many reasons, remarkably well adapted to this climate and country. Another fish, which is found in great abundance and of large size in almost all the Lakes and Rivers of the North West, is the sturgeon. More especially in the waters lying east of the Grand Rapids on the Saskatchewan is this fish found in the greatest numbers. They have been taken both in the Red River and the Assiniboine near Fort Garry, weighing from 60 to 80 lbs. each, and a sturgeon weighing 40 lbs. is not at all uncommon. A considerable quantity of sturgeon oil is made in the country. It is not exported, but is used as a machine oil and found to answer the purpose remarkably well. A fifty pound sturgeon in good condition will produce about a gallon of oil. The sturgeons are generally taken in the Spring, and are used considerably by the Indians and half-breeds for their own consumption, though there is no trade done in them, nor are they caught in anything like the same quantities as the white fish, which as an Indian hunter said to me "is to us (the Indians) in the water what the buffalo is on the land."

Trout are found in Lakes Winnipeg and Manitoba, in most of the smaller lakes and streams of the North West, but not in the Red River nor in the River Assiniboine.

They are found in Hay's River and most of the other streams flowing into Hudson's Bay, and in large quantities in Oxford Lake, Mary's Lake, God's Lake, Island Lake, Trout Lake and other waters lying between Nelson River and James' Bay. Most of the lakes and streams in that region are what the hunters call "blackwaters" (*i. e.* they have hard or granite beds) and in them trout are found, while the waters lying more to the south have muddy bottoms and in them no trout are taken.

The "Goldeye" is a fish peculiar to this country and is found in large quantities in almost all the lakes and rivers of the North West. In appearance it resembles the Herring, its flavour is excellent, and it is used extensively as an article of food. The "Goldeyes" are generally taken in nets at all seasons of the year.

In addition to the fish already named, the waters of the North West contain cat fish of large size, red and grey suckers, pike and other coarser kinds. The white fish, however, is the fish which of all others is found in largest quantities, and forms, as I have before mentioned, a staple article of food of the most excellent and nutritive kind.

Before concluding what must necessarily be a somewhat incomplete report, I acknowledge my indebtedness to the Honorable Mr. McKay, President of the Council of Manitoba, and the Honorable Donald Gunn, of the Legislative Council, for the greater portion of the information which I have been able to collect. Both these gentlemen have for many years resided in the North West, and their names may be received as a sufficient guarantee for the reliability of all the information derived from them.

I have the honor to be, &c.,

W. T. URQUHART.

APPENDIX U.

GOVERNMENT STEAMER "LADY HEAD,"

HALIFAX, N. S., December 17th, 1872.

SIR,—I have the honor to report for your information the movements of the vessels comprising the Marine Police during the season.

The *S. G. Marshall* was commissioned by Commander James A. Tory, J. P., on the 19th April, and when ready for sea, proceeded on the 8th May to the Magdalen Islands, calling at Sable Island on the way. She was ordered to cruise around the Magdalen Islands until relieved by the Government schooner *La Canadienne*, Commander Lavoie. On 25th June, Commander Tory having been transferred to the schooner *J. W. Dunscombe*, the command of the *S. G. Marshall* devolved upon Mr. James A. Nickerson, who was ordered to take his station on the North coast of New Brunswick, commencing at Gaspé and ending at Shediac, including the Bay des Chaleurs. She continued on this station till the 1st October, when she was ordered to cruise on the West coast of Cape Breton. She was put out of commission at Halifax on the 31st October.

The *New England* was commissioned on 22nd May, at the Port of Chatham, Miramichi, by Commander W. T. Frost, and when ready for sea, dropped down the river and proceeded to Pictou on the 4th June, where she received her armament, and afterwards left for her station on the West coast of Cape Breton. She continued to cruise between the Straits of Canso and St. Paul's Island till the 4th October, when she was ordered to Halifax, in order that her Commander might be able to answer to certain charges that had been brought against him by his First Officer. The charges against Commander Frost having been disproved, the *New England* was ordered to take in stores for Sable Island. On the 15th she proceeded to sea, and after making several ineffectual attempts to reach Sable Island, bore up for the Straits of Canso and landed the stores. She was put out of commission at Chatham in the early part of November.

The *J. W. Dunscombe* was fitted out at St. John, N. B., by Mr. J. N. Purdy, her First Officer, and arrived at Pictou on 25th June, when Commander James A. Tory took the command and proceeded to his station on the East coast of Cape Breton, commencing at Cape Canso and ending at St. Paul's Island. She continued on this station until the end of the season, and was put out of commission at Halifax on the 30th October.

The *Peter Mitchell* was commissioned at St. John, N. B., on 15th June, by Navigating Lieutenant D. M. Browne, R. N. She proceeded to sea on the 29th of that month, and after calling at Halifax and Pictou for her armament proceeded to her station on the North coast of New Brunswick, between Shediac and Gaspé, including the Bay des Chaleurs. She continued there till the middle of October, when she was ordered to the Bird Rocks, and afterwards to the South coast of Anticosti, to relieve the crews of two shipwrecked vessels. The remainder of the season was spent in watching the oyster beds at Caraquette. She was put out of commission at Pictou on the 19th November.

The *Katie* was commissioned by Commander George Matson (late First Officer of the Government steamer *Lady Head*) on the 21st June, in the Straits of Canso. On the 27th of that month Commander Matson was directed to proceed to Guysboro' to take charge of the schooner *J. H. Nickerson* (late a prize), recently purchased by the Government, and to proceed with her to Halifax for better security. After this service was satisfactorily accomplished, Commander Matson resumed the command of the "*Katie*."

and proceeded to Pictou for his armament, and afterwards to his station, which extended to both sides of the Straits of Canso. She continued on her station until the 26th October, when she was paid off at Auld's Cove, Straits of Canso.

In concluding this Report, I have the honor to inform you that the Americans seem to have almost deserted the Gulf of St. Lawrence during the past season. The few seen were principally fishing on the coast of Prince Edward Island.

I have the honor to be, Sir,

Your most obedient servant,

P. A. SCOTT, Captain R.N.,
Commanding the Marine Police.

To the Hon. P. Mitchell,
Minister of Marine and Fisheries,
Ottawa.

APPENDIX V.

MARINE POLICE SCHOONER "J. W. DUNSCOMB,"

HALIFAX, November 1st, 1872.

SIR,—I have the honor to make the following report while in command of the Police Schooners, *S. G. Marshall* and *J. W. Dunscomb*, employed in the protection of the Fisheries during the past season.

On the 15th April last I had the honor to receive, at Guysborough, instructions from your Department to proceed to Halifax, for the purpose of taking charge of the former vessel, and to have her equipped with all possible despatch, and to proceed to the Magdalen Islands for the protection of the Fisheries in that locality. I immediately left for Halifax to carry out said instructions, but owing to the state of the travelling, did not arrive until the morning of the 19th; and thereupon reported myself to Capt. P. A. Scott, and then proceeded to Dartmouth to look after the vessel, where she had been laid up for the winter. I there found her driven up by the winter gales upon the beach, which caused considerable delay in getting her off and preparing for sea. On the 2nd May I was all ready to proceed to my appointed destination, when Mr. Johnston informed me that there were some supplies to be taken to Sable Island, which, on that and the following day, I received on board; but owing to fog and adverse winds was unable to proceed to sea until the 8th, when I sailed for that Island. The wind being unfavorable to approach it in safety, I did not succeed in reaching there until the 12th, when I came to anchor off the main station. Landed the supplies and sailed again for Cape Canso, where I arrived on the following day. The weather being foggy and the coast blocked with ice, I could not enter the Strait of Canso until the 18th, where I was again detained by ice until the 23rd, on which day I succeeded in getting through the Strait, but owing to the North Bay being also blocked with ice could not proceed, and was compelled to seek shelter at the entrance of Pictou Harbor until the 25th, when I again attempted it, and after battling with the ice until the 28th I succeeded in getting through it and arrived at Amherst Harbor, and there found that several vessels had arrived some time before and were nearly loaded with herring. A few days after several other vessels arrived for the purpose of prosecuting the mackerel fishery, a list of which is annexed.

I am happy to report that all the vessels which visited the Magdalen Islands before my arrival and during my stay, cheerfully complied with the law and local regulations, and also that peace and good order prevailed.

The herring fishery in that locality was good. The fish being plentiful and near the shore, and the vessels there succeeded in getting full fares.

The seal fishery was a total failure; this the inhabitants attributed to too much ice and no doubt they will seriously miss this important branch of the fishery.

Codfish and mackerel had not made their appearance, when I left that station, but I have since understood there were fair voyages made in both kinds of fish. I think the cause of the lateness of those fish may also be attributed to the immense quantities of ice remaining upon that coast to so late a date as the 2nd of June.

While upon that station nothing of importance occurred which came to my notice, excepting in one instance—a few nets were set in the channel, but these were immediately removed by the owner on his receiving notice that the channel must be kept clear. Also two foreign schooners from St. Pierre were preparing to take bait; after receiving notice that they would not be allowed to catch but could purchase bait, they gave no further trouble.

A complaint was made to me by the captain of a Nova Scotia vessel, who was there for the purpose of fishing and trading, that the local authorities had demanded from him a fee for trading in that locality. This may be a municipal law, but I think it very unfair to tax a vessel from another Province for municipal purposes, who may by chance or otherwise go upon that coast to trade, and does not land upon the soil. Cases of this kind, I think, call upon the Government to use their influence in the prevention of one Province of the Dominion locally taxing the inhabitants of another, as each has to pay its local taxes at home.

On the morning of the 18th June, *La Canadienne* arrived, when I immediately called upon Commander Lavoie, and as he had no orders for me, I at once sailed for Pictou, N. S., having previously received instructions to proceed to that port for the purpose of taking charge of the schooner *J. W. Dunscomb*, where we arrived on the 20th, and there remained waiting the arrival of that vessel until the 24th, when I delivered up the *S. G. Marshall* to my First Officer, Mr. James A. Nickerson, who had been promoted to Commander, and on the following day I took charge of the *J. W. Dunscomb*.

I was here detained by head winds until the 27th, when I sailed for the station allotted to me on the fishing grounds in Nova Scotia, viz., the Eastern and Southern coast of Cape Breton Island and West to Cape Canso, including Chedabucto Bay, upon which I kept cruising and occasionally visiting St. Paul's Island the remainder of the season or until the 28th October. A detailed statement of each day's proceedings has already been forwarded to your office.

Finding our foremast giving out, and fearing that an accident might thereby occur to the vessel, I left the station and proceeded to Halifax, and as the season was nearly at an end, landed the Government Stores, and on the 30th paid off and discharged my crew and delivered the vessel to Mr. Purdy, by order of her owner.

This part of the coast was not visited by many foreign fishing vessels during the season, and those that did visit it remained only long enough to ascertain that there was a Police Vessel upon that station. I feel confident in saying there was not one violation of the Fishery Treaty after my arrival at the station, but was informed that one vessel had been seen trawling inside of Scattarie Island before my arrival; and only one violation of the Fishery Law, that of setting a trap or pound in Crow Harbor, which was only a few days in operation, when I ordered it to be immediately removed.

A list of foreign vessels boarded by me during the season is annexed, and it contains all the information I could elicit from them.

The fishery along that portion of coast allotted to me, may be said to be an average one, although in some localities and in some kinds of fish not so good as last season, but in others in excess of last year.

The catch of codfish has been far ahead of that of last and many previous years and has commanded a fair and remunerative price in market. The quantity of mackerel on the coast was quite equal to that of last year, but owing to the very low price offered for them in the first part of the season, many persons who had heretofore been engaged in the taking of them quit the business and turned their attention to other pursuits, and a large portion of those who still continued in the fisheries paid little or no attention to the mackerel, and they passed unmolested, hence the cause of the catch of mackerel being short of last year; but during the latter part of the season the prospects in price brightened, and the quality of the fish improved, causing people to turn their attention to those fish again, which resulted in a considerable quantity being taken especially on the western coast of Cape Breton and in Chedabucto Bay.

Herring in some localities was nearly a total failure, but in others quite equal to previous years. Other classes of fish were about the same as past years.

I would here mention that a new trade in a species of fish known by the name of "Squid" (which has heretofore been looked upon as useless excepting for bait) has sprung up on the eastern coast of Cape Breton with the French, who come to that part of the Coast in Newfoundland vessels, and there purchase cargoes of those fish, which

amount to a considerable sum of money, and are carried by them to St. Pierre and the Banks to supply their fishermen with bait. I have no doubt but this branch of our fisheries will be continued and further extended, and thereby become a profitable source of wealth to those engaged in it.

I must again report that I have every reason to believe that illicit trade is carried on to a very large extent from St. Pierre and the United States to the coast of the Dominion both by British and foreign vessels—during the past season I fell in with the schooner "*Liberty*" of Sydney, C. B., Kenedy, Master, with a general cargo, and a clearance from Halifax for Louisburg, which contained only a small portion of the cargo then on board, and that portion of it not dutiable. As the remainder of the cargo was dutiable and there was no clearance for it, I allowed the captain to land what goods he had cleared, and then placed the vessel with the balance of cargo in the hands of the Custom House Officer at Cow Bay. Also the American schooner *D. H. Mansfield*, of Gloucester, Williams, Master, with a quantity of dutiable goods from Gloucester, which had been trading along the coasts of Nova Scotia, Cape Breton and Magdalen Islands, without entering his vessel or paying duty upon his cargo, and had also for the purpose of further fraud upon the Revenue, made a false entry at the Customs at North Sydney, for which I seized the vessel and cargo and placed them in the hands of the officer of that port. The cargo was landed and stored in the Government Warehouse, the vessel dismantled and docked. Also the schooner *Pave*, of Halifax, Joseph Port, Master, from St. Pierre, with a clearance in ballast, for Arichat. On searching this vessel, I found a large quantity of liquors, &c., on board which the captain totally denied having knowledge of, and as it was evident that she was on a smuggling expedition, I seized her and her cargo, and also placed them in the hands of the Custom's Officer at North Sydney. The cargo was landed and stored in the Government Warehouse. The vessel being of so little value, I considered she would not pay the expense that would be incurred if put under a watchman. I advised the officer to allow the owner to bond her at two hundred dollars, which was done, and the vessel was taken charge of by him. I think from the foregoing and other seizures which have taken place upon this part of the coast, I am justified in making the statement; and I further think that not one seizure is made out of every fifty cases of violation, although only those few cases came under my notice; and I may say that it is almost impossible and a mere chance to catch a smuggler with one cutter while engaged in protecting the fisheries on a coast of over two hundred miles in length. To perform that duty faithfully there is not much time at command to seek for smugglers, as it is necessary to be continually cruising from one end of the station to the other, for it is not known at what time an intruder will make his appearance. To prevent or stop smuggling will require the undivided service of a vessel detailed for that purpose, and I think a small and fast steamer would be preferable to a sailing vessel, as she would be enabled to perform a greater amount of work, the duty of which ought to be to intercept and search all vessels from suspected ports before they entered our harbors or reached the shores—this, with such other assistance and intelligence as might be given to her commander, would finally put an end to illicit trade.

Our coasting and fishing vessels are in the habit of clearing and entering only a portion of their cargoes, which enables them to assist the smuggler, and makes it impossible for a revenue officer to detect smuggled goods on board of such vessels. If the Custom's officers would make it compulsory upon the masters of those vessels to clear and enter their whole cargoes or suffer a penalty or the seizure of such portion of cargo as was not so entered or cleared, it would materially assist in the prevention of smuggling.

It has also been brought to my notice that some of these officers do not administer the customary or any other oath to masters of vessels from foreign ports. If such is the case, and I have no doubt of the truthfulness of the statement, it is another inducement to the smuggler, and ought to be at once prevented.

I would beg leave to bring to your notice the necessity of placing buoys upon the following dangerous places, viz., at the Magdalen Islands, on the end of Sandy Hook.

The shoal water extends to a considerable distance from that beach, with a strong current setting over it, which makes it very dangerous to vessels passing between it and Entry Island, into and out of Pleasant Bay, and more especially since by the erection of the Light at West Cape this has become a greater thoroughfare than formerly. This place ought to have two buoys at least, one on each extremity of the shoal water, as there are no given marks to point out the danger. Also, a buoy to mark the outer end of the bar, which extends towards the west end of Scattarie Island in Main-a-dieu passage. This bar is nearly a mile in length, and does not show in smooth water, which makes it very dangerous to vessels passing to and fro through that passage, which has also become a common thoroughfare since the erection of the light on the West end of Scattarie Island.

I would also bring to your notice that the buoy on the Eastern Rock or Grimes' Shoal, Cape Canso, is far too small for so dangerous a place, as it can scarcely be seen (when there is any sea) in time to warn mariners of the danger. This buoy would suit at Main-a-dieu, and a larger one ought to be provided to take its place.

There are also several dangerous shoals in St. Peter's Bay, leading to the canal, which ought also to be marked, if with nothing else—a spar buoy.

Hoping that my season's work and the foregoing may meet with your approval,

I have the honor to remain, Sir,

Your obedient servant,

JAMES A. TORY,

Commander of Schooner J. W. Dunscomb.

To the Hon. Peter Mitchell,
Minister of Marine and Fisheries,
Ottawa.

* Since writing the foregoing, the ship *Railway King*, of Prince Edward Island, was totally lost upon this shoal. J. A. T.

APPENDIX X.

MARINE POLICE VESSEL "PETER MITCHELL,"

PICTOU, N.S., November 19, 1872.

SIR,—I beg to submit the following report of the proceedings of the Marine Police Vessel *Peter Mitchell*, engaged under my command in protecting the Canadian Fisheries during the past season.

The vessel having been fitted for service left St. John, N.B., on 29th June, and after calling at Halifax and Pictou for her armament and Government stores, I proceeded to my station, which comprised that part of the Gulf of St. Lawrence extending from Gaspé to Shediac, including the Bay des Chaleurs. On 21st July, I visited Caraquet and, in compliance with directions received from the Department through Captain Scott, R. N., inquired into a complaint made by the fishermen of that place through Mr. Anglin, M.P., that during the previous summer they had been subjected to the intrusion of strangers, who had committed serious breaches of the peace, consequent on such intrusion. After consulting with the local Fishery Overseer, with the principal residents, and more particularly with some of the most reliable of the fishermen, I found that the men engaged in the herring fishery about Caraquet, do not complain in the least of being molested by the crews of United States fishing vessels. The local fishermen, when engaged in fishing for herring, which they do in large, open boats, are very much opposed to, and view in the light of intruders, those belonging to the Nova Scotian and other Provincial schooners, which generally repair to the banks off Caraquet to engage in this fishery, and it is between these two parties that the disturbances complained of occur. During some seasons, about twenty schooners anchor on the herring grounds, each having from thirteen to sixteen nets, which measure from a twenty-five to thirty fathoms in length, being from six to eight fathoms deep. The local fishermen complain that these vessels, with such a large number of nets, entirely monopolize the banks, and, if one of the boats belonging to the vicinity attempts to anchor or set nets anywhere near them, they are immediately molested—their nets and mooring lines cut, and instances were given in which fire-arms were used. They also complain that those belonging to the schooner throw their offal overboard on the herring grounds, and are thereby ruining the fishery. It is not unusual for one vessel to take as many as 200 barrels of fish in one night, and this large catch is probably cleaned immediately, and the offal thrown over the ship's sides. I may here remark, that a large portion of these valuable herring grounds, although lying in the Bay des Chaleurs extends considerably beyond the three miles line, and consequently, by present regulations, are only partially under the control of our cruisers. I made it a point to board all the herring schooners I came across during the season for the purpose of warning those on board against interfering with the boat fishermen, and also to call their attention to that part of the "Fisheries Act" respecting the throwing overboard of offal.

I cruised in the Bay des Chaleurs on the look out for foreign vessels till the 28th, and then stood to the southward. On the 1st of August I again left for the northward, and proceeded up the Bay des Chaleurs, visiting the different stations along the shores of the Bay. On the 9th I stood down the Bay for the purpose of visiting the herring grounds and remained in that locality till the 16th, when I proceeded to the northern part of my station and anchored in Gaspé Basin on the following day. No American schooners having been seen about here, I left for the southward on the 20th. On the 27th having received directions from the Honorable the Minister to embark J. F. Whiteaves, Esq.,

F. G. S., for a deep sea dredging expedition in the Gulf. I returned to Gaspé for that purpose. Mr. Whiteaves was, however, compelled to return to Montreal. I therefore resumed my cruise in the Bay des Chaleurs, giving special attention to the herring grounds until the 6th September, when I left for the southern limit of my station, and on the following day anchored in Shediac Harbor, where the vessel remained for the purpose of undergoing a slight refit till the 14th, when I left for Escuminac, it now being the time when the herring fleet congregates at that place. On the 16th a strong easterly wind set in, which compelled the fleet to disperse, and as there was every indication of dirty weather, I ran up the Miramichi River and waited till a change took place. On the 23rd, again visited Escuminac, and found that the herring fishing was over for the season. Stood to the northward for the banks, and remained in the vicinity of Caraquet and Shippegan till the 5th October. During this interval I frequently visited the oyster beds, especially those above Caraquet, and found everything working well. I also endeavored to ascertain any cause of dispute or quarrel that might exist amongst those engaged on the banks, but this appears to have been an unusually quiet season, owing probably to the frequent visits of this vessel and the other Marine Police Cruisers stationed about this locality. On the 6th I proceeded to the southward, and during the next few days experienced some very heavy weather, which compelled me to make for Shediac to effect repairs. Very little oyster raking was going on at Shediac. Those once valuable beds appear to be almost entirely exhausted. On the 15th I received written instructions from the Department to proceed to the Bird Rocks for the purpose of removing workmen employed there, to Gaspé, and on the 17th I put to sea for this purpose. The next day, on arriving off the Rocks, the wind was fresh from south-east, rendering landing impracticable. I remained close to them till the next day, when the wind increasing, and a high sea running, I anchored for shelter under the lee of Byron Island. The gale veered to the north-east, compelling me, on the following day, to run for a lee under the east point of the Magdalens. On the morning of the 23rd I succeeded, but not without great difficulty, in getting the men off this inhospitable islet, and immediately left for Gaspé, but the next day I found there would be more probability of meeting the Quebec steamer at Percé, and consequently made for that place, and in the evening placed the workmen on board the steamer. I then went on to Gaspé, where I received directions from the Department to visit the scene of two wrecks at Pavillon River, Anticosti, for the purpose of affording relief to any who might be still on the island; also to visit the South Point Light, Anticosti, it having been reported that the lightkeeper was missing. On the evening of the 28th I left Gaspé, and on the following morning boarded the wreck of the two barques *Agla*, of Gottenburg, and *Lebanon*, of North Shields. I afterwards ran along the south side of the island, and in the evening visited the South Point Lighthouse, where I found the keeper all safe, and the light in good working order. I wrote full particulars to the Department at the time respecting this service. The following day I arrived at Gaspé, and after communicating by telegraph with the Department, was directed to proceed to Caraquette, which I did on the 3rd November, and remained there for the purpose of protecting the oyster fisheries till the 11th, when the last vessel having left the loading ground for Quebec, I put to sea for Picton, where the crew of the *Peter Mitchell* was paid off, and the vessel delivered to her owners on the 19th.

From what information I could gather as well as from my own observations, I should say that the result of the season's work to our own fishermen has been satisfactory. Very few United States mackerel schooners were seen about the part of the Gulf I cruised on, and those few fished principally about the Magdalens and off the Coast of Prince Edward Island. There was no lack of fine mackerel in the Bay des Chaleurs and in Dominion waters, but I presume the fact of our inshore fisheries being still closed to foreigners, together with the small price obtainable for this article, must have induced the greater number of those who generally repair to the Gulf with their fine mackerel fleet of schooners, to seek other employment. The herring fishing off Escuminac did not prove a success. The fish do not generally strike in there till the first week in September, but this season they appeared in great numbers about the middle of August. The

fishermen were then busily engaged in codfishing, and according to custom did not congregate about Escuminac till three weeks later, when to their great disappointment the greater part of the herring had left. This fish, however, was very plentiful on the Caraquet and Miscou banks, and the fishermen at that locality did remarkably well. There were only four herring schooners seen on these banks this season. Codfishing, which must be considered the chief means of support to the inhabitants of the counties of Gaspé and Bonaventure, as well as to a great many living along the north shore of New Brunswick, was carried on with great success this year, notwithstanding that both merchants and fishermen lost considerably by the succession of wet weather experienced in all parts of the Gulf this season, making it a matter of great difficulty to properly cure the fish. The season was also a remarkably late one, the first vessel for foreign market not having left the Gulf till the middle of August. This must be considered in comparing the catch with that of former years. The salmon fishing establishment at the mouth of the Miramichi did not meet with much success this year, but at the Grand Cascapédia and Restigouche the fishing was very good. There is a large canning establishment at Carleton, where both salmon and lobsters are preserved, and exported in large quantities. Salmon to the value of \$25,000 was shipped from one place alone during the month of July.

The oyster beds at Caraquet this year were raked with great success, and when the last vessel of the season left loaded for the Quebec market with this delicacy, no less than 7,600 barrels had left the place, besides a large quantity raked for local consumption.

Annexed will be found a list of vessels boarded, which includes every foreign fishing vessel met with in Dominion waters.

I have the honor to be, Sir,

Your most obedient Servant,

D. M. BROWNE,

Navigating Lieutenant R.N.

Commander of the Marine Police Cruiser Peter Mitchell.

To the Honorable PETER MITCHELL,

Minister of Marine and Fisheries, Ottawa.

APPENDIX Y.

MARINE POLICE SCHOONER "S. G. MARSHALL,"
HALIFAX, 10th November, 1872.

SIR,—In accordance with your instructions, I beg to submit my report while in command of the Government Police Schooner *S. G. Marshall*.

On my arrival at Pictou from the Magdalen Islands on the 20th June, I had the honor to receive official information from your Department that I had been appointed to the command of that vessel, and likewise from Captain Scott, R.N., placing me in command as soon as Captain Tory left. On the 24th I took command and made ready to sail for the station allotted me by Captain Scott, which extended from Shediac to Gaspé. On the 28th sailed from Pictou, arriving at Shediac on the 30th, and from that time until the 25th of September, continued to cruise on that station, calling at all the bays and most of the harbors. On the 25th of September sailed for Port Hood, arriving there on the 29th. On the 7th of October sailed for St. Paul's Island, arriving there on the 8th. Took off eight men employed at the fog whistle, with Mr. McNeal and the West End Lighthouse Keeper. The two latter I landed at Sydney. On the 11th proceeded to Pictou, landing the eight men on board the steamer *Secret*. On the 16th received instructions from Captain Scott to take on board any stores remaining there and proceed to Halifax. On the 17th sailed for Halifax, calling at Port Hood on the 18th. Took on board our gig left there. On the 19th sailed again, anchoring at Port Hawkesbury at 5 p.m. On the 20th, at 3 p.m., made sail again; it becoming calm, anchored at Bear Island. On the 21st stood over to Canso, anchoring there at 10 a.m. The wind and weather being unfavorable, remained there until the 24th. At 6 a.m. proceeded to sea, arriving at Halifax on the 25th. At 1 p.m. landed stores, placed the vessel in her winter quarters, and paid off the officers and crew on the 31st.

While engaged upon my station I never saw or heard of any American vessel violating the Fisheries Act, or any of the Local Acts in force in that part of the Dominion.

The cod fishery upon this station during the past season will compare favorably with last year's, the catch being an average one. The weather was, however, unfavorable for curing, consequently the fish will not command as large a price as heretofore. The mackerel were very abundant on this station this season. They made their appearance in the bays and shoals about the 1st of July in large quantities, and from that time until I left the station they remained plentiful, only moving farther from the shores of Canada, forming a half circle from Cape Gaspé to East Point, Prince Edward Island, a few miles off Bonaventure Island, about seven or eight miles off Escuminac, and about the same distance off Cape North, Prince Edward Island, and thence to Cape Breton Island. Although plentiful, they did not take the hook well, consequently the American vessels have not done as well as usual, few of them making a second trip. During the early part of the season mackerel kept close in shore on the whole extent of my station. I never saw them so plentiful, and there is no doubt had not our presence on the ground prevented American vessels from coming in close to the shore, they would have secured full cargoes in a few days, as at that season mackerel take the hook much better in shore than off. There were not so many mackerel taken with the hook as formerly around the Magdalen Islands. This accounts in some measure for the American vessels doing so well, and the close watch kept after them has so lessened the number of those frequenting the North bay that their catch will be very small this season. I only saw one British vessel fishing for mackerel while on my station, and the inhabitants seem wholly unacquainted with the mackerel

fishing. It could be made a very profitable business, since it is attended with little expense, as the fish keep at their doors during the whole season.

My attention was particularly called to the herring fishery off Escuminac, Miscou and Caraquet, which is a fishery of considerable importance. These fish resort to Escuminac Bank early in the spring and in autumn, for the purpose of spawning, and also on other banks above mentioned. Herring was very scarce on Escuminac Bank this season, the cause of this failure being evidently due to the practice of throwing offals of fish on spawning beds, and allowing nets loaded with herring to remain on the banks until the fish were rotten, thus fouling the bottom. While the boats were fishing for herring on Escuminac bank I also noticed quantities of fish on the bank lying off Portage Island and extending towards Tibusintac, and on all the sand-banks and shoals as far as Miscou and Caraquet, and it is my opinion that herring can be taken at any season of the year in those waters. There were only two schooners from Nova Scotia and one from Cape Breton, at Miscou and Caraquet this season. They obtained their cargoes of about 400 barrels each on Miscou banks. There were no complaints of any violation of the Fisheries Act on those banks. The herring have been very plentiful, but there being only a limited number of sail, the catch was small. The merchants of the place only took a few hundred barrels, and the fishermen had no means of curing or shipping them to market. The salmon fishery will hardly come up to an average on this station. Although it proved profitable in some localities, there was a great falling off in other places. The lobster fishery is now becoming of considerable importance, and as it gives profitable employment to quite a large number of hands, it is worth looking after in order that there should be no unnecessary or wilful destruction.

Illicit trade from all accounts received has not diminished this season, although confined to the eastern part of Nova Scotia, Cape Breton and Bay of Fundy. Any one not acquainted with the trade could hardly believe to what extent it is really carried on, and the various modes of doing it. After passing Pictou there is but very little carried on; none came under my notice, and no information was lodged before me. If any occurred, it must have been of slight importance, and carried on by vessels calling into Prince Edward Island or some out of the way harbours.

Before closing, I would beg to call your attention to the placing of buoys at Caraquet, Shippegan and Miramichi. In entering each of those harbors a person unacquainted with them will find it very difficult to steer by the buoys. The placing of the same colored buoy on each side of the channel may answer pilots and those who are acquainted with the river, but they are almost useless to a stranger, for whose guidance they are principally put in position. Now, by placing all buoys of the same color on one side of the channel a stranger passing the right side of the fish buoy would have no difficulty in making the harbor.

Hoping that my doings will meet your approval.

I have the honor to be, Sir,

Your obedient servant,

JAS. A. NICKERSON,

Commander of Schooner S. G. Marshall.

To the Honorable PETER MITCHELL,

Minister of Marine and Fisheries, Ottawa.

APPENDIX Z.

MARINE POLICE SCHOONER "NEW ENGLAND."

CHATHAM, 10th December, 1872.

SIR,—In obedience to your instructions, I beg leave to tender my report while in command of the Government Marine Police Schooner *New England*.

On the 14th of May last, I had the honor to receive official information from your Department, that you had been pleased to appoint me to the command of that vessel. I immediately left St John, N.B., for Chatham, Miramichi, arriving there the 22nd, where I found the *New England* ballasted and sails bent. I lost no time in shipping my crew, and making the necessary preparations for sea. I reported myself to Capt. P. A. Scott, R.N., Commanding the Marine Police Force, who informed me when the *New England* was provisioned, to proceed to Pictou, N.S., and report to him. Owing to the continuance of easterly gales and thick weather, the steamship *Pictou* did not arrive with the provisions for the *New England* before the 30th of May. I received the provisions on the 1st of June, and was detained in Chatham until the 3rd, owing to easterly storms. On the morning of the 4th I sailed for Pictou, having experienced very rough weather in Northumberland Strait. On the 6th I arrived at Pictou, and reported to Capt. Scott, who informed me to take my station from the Strait of Canso to Cape North and Port Hood, making harbor at Georgetown, Prince Edward Island, if necessary, and to proceed to Port Hood, where I would meet the Government schooner *J. W. Duncomb*, with Government stores and clothing for the crew. From the 6th to the 9th the weather was unusually rough from the eastward, which detained me in Pictou until the afternoon of the 10th, whence I sailed for Port Hood, arriving there at midnight of the 11th, having experienced easterly weather and fog. The fishermen informed me that they had scarcely done anything, owing to the bait having struck off shore, and the prevailing easterly storms; they were satisfied to see that their fishing grounds were to be protected. I made it my duty to inquire into their different modes of codfishing. They informed me that during the months of May and June, they principally fished with the hook and line, and during the latter part of the season caught most of their fish with trawls so that they could attend to the mackerel fishing while their trawls were fishing, and that the average catch of codfish was about four quintals. I was informed that only two American vessels had been in Port Hood for the season up to the 12th June, for shelter and fire wood. On the 18th I anchored in Port Hawkesbury. During the day, twenty-five sail of American fishermen passed through the Straits of Canso, bound for the Magdalen Islands and East Point of Prince Edward Island. On the 19th hauled into the marine slip, and cleaned the vessel's bottom and painted it. I was informed that upwards of thirty sail of American fishermen had been on the marine slip previous to my arrival.

On the 20th June, at 4 p.m., came off the slip. I was informed that one hundred American vessels had passed through the Strait up to date. I boarded several in Port Hawkesbury and Port Mulgrave. They informed me that there would not be over one half the number of vessels in the Bay this season, owing to the low price of mackerel, and the great difficulty in getting men to ship for a mackerel voyage. By what I could learn, the Americans ship the greater part of their crews along the Nova Scotia coast and the Straits of Canso.

On the 22nd I observed an American schooner, the *Stella A. Hendrie*, of Deer Island, discharging flour. I examined his papers, and noticed that he had no manifest, only bills

of lading for small lots for different parties along the coast. I called on the Custom House officer at Hawkesbury, who informed me that he had given the captain permission to land. I crossed over to Port Mulgrave, where I observed the British schooner *Maria Elizabeth*, of Guysborough, from Halifax, with a general cargo. The Captain informed me that he had left his papers with the officer of the Port. At noon the Government schooner *J. W. Dunscomb* arrived from Halifax; received from the second officer the Government stores.

At midnight, the captain of the American schooner *Pochahontas*, of Gloucester, hailed the *New England*, wanting assistance on account of his crew threatening to take his life. I manned the gig and boarded her, and took five of the crew on board of the *New England*. At 8 a.m. I settled the disturbance and allowed the vessel to sail for the Magdalen Islands. The crew said that they believed the captain intended to cast the vessel away the first chance, and that they had shipped for a mackerel voyage.

On the 23rd, forty sail of American fishermen having passed through the Strait of Canso, at 9 a.m. I weighed and proceeded to Port Hood. I observed that the greater part of the fleet was bound through Northumberland Strait and Prince Edward Island. At 4.30 p.m. I anchored in Port Hood; no American vessels having been here during my absence.

On the 27th, at 5 a.m., the American vessels sailed for East Point. At noon I spoke a small fishing craft. The captain informed me that he had seen but three American vessels along the coast up to date and he believed that the greater part of the vessels were fishing at East Point. At 3 p.m. I sailed for Margaree; arriving there at noon of the 28th. I passed two schooners under the land from Chimney Corner, coal laden. I was informed by the fishermen belonging to Margaree that there had been only four American vessels seen on the west coast of Cape Breton, up to this date; believed that they were all at East Point, owing to the mackerel being in great abundance on the coast. I passed several large schools of mackerel; the fishermen informed me that they were schooling and would not take the hook.

On the 29th I spoke three British vessels; they informed me that the mackerel were very plentiful, and had been doing good fishing. At 1 p.m. spoke the American schooner *Alfred Whalen*, of Gloucester, homeward bound from Newfoundland; reports codfishing very slack; had caught only 300 quintals in seven weeks. Passed two American vessels from Prince Edward Island, with full fare of mackerel.

On the 17th July, I anchored in Port Hood; observed one British and three American schooners in port—the *Foam*, of Canso, *Tidal Wave*, *Ottis D. Dana* and the *Caroline*, of Gloucester—making preparations to fish on the coast; cautioned them to beware of the cutters cruising, and that they were not allowed to remain in port only for shelter and to obtain wood and water.

On the 18th, I boarded the American schooner, *Della Hodgkins*, preparing to fish in the Bay. I observed that these vessels were lurking about, and watching our fishermen's mode of catching mackerel. The Americans considered it hard not to be allowed to fish inside the three mile limit. I was informed that the Americans would throw mackerel bait over board, and actually take the fish off shore outside the three mile limits.

On the 20th, I cruised round George's Bay; observed two American fishermen off Balentine Cove. When they observed the *New England* cutter making towards them they immediately hauled off shore. I passed two American fishermen off Cape George, running for the Strait of Canso, apparently from Prince Edward Island. I cruised along the coast from Cape George to Pictou; no Americans along the coast, only small crafts catching mackerel about one mile off shore.

On the 22nd, I boarded the American schooner *Allie B. West*, of Gloucester, having just arrived and bound mackerel fishing in the Bay. Port Hood may be considered the only harbor from the Strait to Cape North. I would suggest that the entrance of the harbor be buoyed, also a buoy on the spit inside the harbor, and a small beacon light erected on the wharf on Smith Island, as a guide to enable vessels coming in night time to clear the spit that makes off the S. E. Point of the Island. I am informed that the bars are making out very fast and run off shoal for a long distance.

On the 25th, stood out of Port Hood; observed several vessels fishing midway in George's Bay; spoke the *Ella G. MacLean* landing oil at Cape Jack Lighthouse. At 3 p.m., anchored in Port Hastings, and boarded the American schooners *Mazeppa*, of Gloucester, making preparations for trawling in the Bay, and *Sarah*, of Port Hood with a general cargo from Halifax. Weighed and proceeded to Port Hawkesbury, crossed over to Port Mulgrave, and boarded four American schooners having just arrived from Gloucester, and bound in the Bay mackereling. On the 26th, followed four American vessels beating out of the Straits, I made inquiry respecting the mackerel fishing on the coast; the fishermen informed me that during the last three weeks they had done very well, and attributed their success to the cutters cruising round the coast. The fishermen highly appreciate their fishing grounds being protected; they acknowledge that were the Americans allowed to fish where they please along the coasts they could not live by fishing. On the 29th cruised in George's Bay, leaving the Government schooner *Katie*, in Port Hood, at 7 a.m., the American schooner *Flying Scud*, put into Port Hood. I did not observe any American fishermen about the coast, there were several fishing about 7 miles off shore. I stood in and spoke the small boats that were fishing; they told me that they averaged about four or five barrels per day. On the 31st, boarded the American schooner *Webster*, of Cape Porpoise, making preparations to fish in the Bay. On the 1st August, anchored the American schooner *Lewis*, of Deer Island, having put in for shelter. The captain informed me that he had landed 112 brls. of mackerel in four weeks, and caught 60 brls. lately. Boarded three American schooners, having run from East Point for shelter, the *Aaron D. Wells*, of Gloucester, the *Aden Story*, having just arrived from Cape Ann, the *Abegril*, of Gloucester, put in leaky. Having fished at East Point, caught but 40 brls. in 3 weeks. On the 2nd, weighed and stood out of Port Hood with all the fleet, and watched the manoeuvres of the fishing fleet. I cruised about and observed that the British vessels and boats seemed to be catching quantities of mackerel. At 10 a.m. I passed ten American fishermen in the Bay who seemed to be trying hard to raise the mackerel—there were very large schools but would not take the hook; these vessels kept off for East Point. Spoke the American schooner *Lois*, of Marble Head, having caught 196 barrels in four weeks off East Point. On the 3rd, three American vessels were fishing off Henry Island; observing the cutter *New England* after them, they hoist jib and cleared off. On the 7th, anchored in McNear's Cove, and boarded the American schooner *Eldorado*, of Boston, making preparations to fish in George's Bay. On the 29th, I boarded the American schooner *Olive Clarke*, of Provincetown, just arrived from the Grand Banks in a leaky state. The captain informed me that he had caught 800 quintals of codfish in four weeks; there was any quantity of bait on the grounds and codfish in great abundance. I observed that there were only eight small crafts engaged in fishing out of Arichat, but several small boats were round the shores, and mackerel were very plentiful; the fishermen said that there had been several American vessels fishing in the Bay, but they were in dread of the cutters. On the 30th ran into George's Bay; five fishing vessels in sight close in shore, about 5 miles to the southward of Ballantine Cove. Kept towards them and fired the gun, and made them show their colors. Two American vessels endeavored to make their escape, but I cut them off and spoke them; no doubt but that they had been fishing inside the limits. They informed me that they considered themselves outside of the three-mile limit. I gave them the benefit of the doubt and cautioned them. On the 5th September, boarded the American schooner *Funny R.*, of Gloucester and the *Golden Eagle*, of Deer Island. These vessels caught the greater part of their mackerel off Miscou averaging about 170 brls. in six weeks; apparently not satisfied with the catch, they complained of not having the privilege of fishing along the coast. On the 6th, observed four schooners fishing in the Bay, about three miles off shore. I kept off for them, and they ran their jib up and cleared off shore; mackerel were breaking all round, the British vessels apparently doing well. On the 7th, went on shore, and had a good lookout from the top of Smith's Island. Upwards of twenty sail of small craft were catching mackerel close along shore and round Henry Island. On the 14th, boarded three British schooners trading for fish. Several small crafts

came in off the fishing grounds; reported that the shores were lined with mackerel; did not observe any American vessels from the top of Smith's Island. At 8 a.m., I was informed that a schooner had struck on Cape Jack Shoal, on the night of the 13th, laden with fish and oil for Montreal; was abandoned at 10 p.m., and supposed to have sunk in an hour afterwards; the crew having arrived at Port Hood. On the 18th, all the boats and small crafts catching mackerel in the harbor, averaging about five barrels per day. I was informed by a fishing craft from Margaree that they had not seen any Americans along the coast; the mackerel had struck off shore but were in great abundance off shore, and several vessels had taken quantities of them. On the 20th, all the fishing crafts got under weigh. Cruised in the Bay, observing several crafts fishing close in shore I fired a gun and made them show their colors. Only one American amongst them was bordering on the three mile limit; he immediately ran his jib up and endeavored to make his escape; proved to be the *Pochaontas*, of Gloucester. The captain said that he considered he was nearly four miles off. I cautioned him that if I caught him inside the limits I would take him in tow. At 7 p.m., all the fleet kept off for Port Hood for shelter, on account of the weather looking stormy. On November 1st received a despatch from Capt. Scott, R.N., to proceed to Halifax as soon as possible. On the 4th received a telegram from Capt. Scott, to discharge cargo in a safe place, and proceed to Chatham and pay off. On the 5th sailed and stood out of the Straits of Canso. On the 6th the *New England* sailed for Chatham, Miramichi, in command of the first officer, having Capt. Scott's permission to leave on account of sickness in my family. The *New England* arrived at Chatham on the morning of the 8th; men were discharged, and the vessel delivered to the owners.

Our colonial fishermen express much satisfaction at the existence of a Marine Police Force. I am informed by the fishermen along the coast that they have done very well this season. I was informed at White Head, that American vessels on their way home were frequently found trawling on our best fishing ground along the shore, consequently fouling and killing the best codfish by throwing over the offals of fish.

Before closing this report, I would respectfully suggest that two buoys be placed on the sand bars at the entrance of Port Hood; also a buoy on the sand spit in the harbor: these bars are making fast; also that a beacon light be erected on Smith's Wharf to enable vessels to clear the bars and the spit when running in during the night. I surveyed Port Hood Harbor in June, and perceived that these bars had made out considerably during the last year, nearly thirty yards. Two beacons on Point Judique, Cape Breton Island, would be of great service to coasters and fishermen along that shore. It would enable them to ascertain when abreast of this dangerous shoal. All vessels engaged either in coasting or fishing should be compelled to have colors, and name painted in full length on their stern. All fish barrels landed at Port Mulgrave should be examined on the arrival of American vessels bound on a fishing voyage, to see if the contents are really salt.

I would suggest that a cable be laid between Sable Island and Arichat, that wrecks and other information may be ascertained the sooner. Annexed is a list of vessels boarded by me during the season. In conclusion I would venture to hope that my services, although inadequate, but performed to the best of my ability, will merit your approval.

I have the honor to be, Sir,

Your most obedient servant,

WILLIAM T. FROST,

Commander of Marine Police Schooner "New England."

To the Honorable P. MITCHELL,
Minister of Marine and Fisheries, Ottawa.

APPENDIX AA.

MARINE POLICE, SCHOONER "KATIE,"

HALIFAX, N.S., November, 1872.

SIR,—I have the honor to transmit for your information, the following report.

On the 17th of June, whilst in St. John, N.B., attending to the repairs of the Government steamship *Lady Head*, I received official information, from your Department, through Capt. Scott, R.N., that I had been appointed to the command of the schooner *Katie*, which was detailed, for the protection of the Fisheries, but was then lying in the Strait of Canso. I proceeded immediately to Halifax, where I reported myself to Capt. Scott, and was there detained two days, looking up stores, arms and ammunition, for the schooners *Katie* and *J. W. Dunscomb*. On the 20th, I left for the Straits of Canso, where I arrived the same evening. On the 21st, I went on board the schooner *Katie*, but she was not quite ready. On the 22nd, the *J. W. Dunscomb* arrived in the Strait, and delivered on board the *Katie* her stores, arms and ammunition. I superintended the fitting out of the *Katie* up to the 27th, when I received a telegram from Capt. Scott, R.N., to proceed at once to Guysboro', and take charge of the schooner *J. H. Nickerson*, (which was the vessel seized some two years previous by Capt. Tory), and take her to Halifax. On the 28th I went to Guysboro', and found I could get no one to assist me in getting the *J. H. Nickerson* ready. I had to return to the Strait of Canso, and engage five men. On the 30th, I left for Guysboro' arriving the same evening. On the 1st of July, I commenced fitting out the *J. H. Nickerson*, and was occupied in doing so up to the 3rd, when I was ready to sail, but there being no wind, I waited until the next day. On the 4th I got under weigh in company with the *J. W. Dunscomb*, a strong breeze blowing from the S. W., but whilst proceeding down the Harbor, I carried away the main boom, which I found was quite rotten. I immediately came to anchor and remained all that day repairing the main boom, until the next day, the 5th, when I made sail, but there being no wind I towed out of the harbor. During the middle of the day a moderate breeze sprang up, and when off Cranberry Island the main boom broke again, which caused me to bear up for Arichat, C.B., arriving there at 5.30 p.m., I remained there until the 7th, when I made sail, but there being no wind I had to tow the schooner out of the harbor and proceed to Halifax, where I arrived on Wednesday the 10th; reported myself to the Department of Marine and Fisheries, and, according to orders, delivered the schooner *J. H. Nickerson* to Mr. Chas. Neal, Dominion Store Keeper. On the 11th, I left Halifax with my crew for the Strait of Canso, where I arrived the same evening. On the 29th I boarded an American schooner, which was afterwards taken by Capt. Tory, of the *J. W. Dunscomb*. I remained in port up to the 2nd of August, when I sailed in company with the *New England* for Port Hawkesbury.

During my passage through the Strait of Canso, I passed from 60 to 70 sail of Americans, all bound to North Bay. I remained in port on account of bad weather until the 5th, when I made sail, going south and cruising along the S. E. side of Cape Breton. During my cruise I saw neither American nor Colonial fishermen. On the 7th I stood in shore, when I observed the schooner *J. W. Dunscomb*, to whom I showed my colors, and bore down on her, and enquired if there were any Americans to be seen in the neighbourhood, and was answered in the negative.

On the 24th, I sailed on a cruise to George's Bay, but finding no fisher men, American or Colonial, I proceeded to Auld's Cove, in the Strait of Canso, where I remained until the 27th, when I sailed for Port Hood, and I arrived there at 3 p.m.

On the 3rd September, I sailed in company with the *Lady Head*, and *New England*. Cruising along shore to the northward, I observed a schooner in shore. I bore down on her. She proved to be the *W. H. Toye* of Gloucester; she had been dropping her dornys astern to obtain bait from the Colonial fishermen. I warned them; when she bore away standing to the westward. At noon, it shut down with thick fog until 3.30 p.m., when the fog lifting, I observed a schooner under the land. I bore down on her. She proved to be the *W. H. Toye*, again, working to the northward I kept in company with her up to 6 p.m., when she kept away for Prince Edward Island. I kept working along shore as far as Margaree Island, where I observed several fishing schooners at anchor, at 10 p.m.; boarded them all. They proved to be all Colonial vessels. I made every enquiry whether there were any Americans to be seen fishing, they answered that there had been none since they came on the ground. I kept on my cruise, passing between the Island and the Main. On the 10th I made sail, and proceeded to sea, standing to the southward, cruising along shore, I did not observe either American or Colonial fishing vessels. On the 11th, I was becalmed off the south entrance of the Strait of Canso, where I boarded an American vessel, from the Magdalen Islands, who reported mackerel very plentiful; but the weather being so very boisterous, they could do nothing with them. Noon; the breeze springing up, I worked through the Strait, and at 4 p.m., anchored in Auld's Cove, to water ship. At 5 p.m., boarded another American schooner, bound to the Mingan Banks. On the 12th, made sail and proceeded to sea, cruising along shore, calling off Havre Bouché. Being informed that there were some Americans purchasing bait, which I found to be untrue, no vessels having called there, I kept cruising about George's Bay, until 6 p.m., when I anchored in Port Hood, the weather threatening. Midnight, blowing very heavy. On the 13th, blowing very heavy. At 6 a.m., I observed the brig *L. W. Eaton* on shore, having got there during the night, I sent an anchor to her, and offered to render any assistance that might be required. The captain accepted the anchor, but declined any other assistance. On the 27th, I came off the marine slip, where I made sail, passing through the Strait of Canso. I kept cruising about George's Bay; no vessels to be seen. On the 2nd th, weather moderating, I made sail and stood to the northward. At 6.30 p.m., I observed a schooner in shore who hauled on the wind. When she observed us I immediately gave chase; but the wind dying out, I ordered my gig to be lowered and continued the chase, when at 7.30 p.m., I came up with her. She proved to be the *Etta Gott* from Prince Edward Island seeking bait. He reported that mackerel was very plentiful off East Point, Prince Edward Island, and was doing at the Magdalen Islands. On the 30th, I observed a schooner inside the limits but not fishing. I warned her off. At 9 a.m., observed another American off Gray Head, which I boarded. He was from the East Point of Prince Edward Island, and reported nothing to be done at the Magdalen Islands—if not allowed to fish inside the limits on the Cape Breton shore, might as well go home. I warned him to keep outside the limits. He immediately stood off shore, in the direction of East Point. I continued on my cruise to the northward. No other vessels to be seen in the neighbourhood of Margaree or Chitican. On October the 1st, rounded Cape North, and stood into Aspy Bay, but perceiving no vessels there, I continued my course southward. Wind increasing and night coming on, I anchored in Ingonish for the night. On October the 2nd I remained in port. I observed a schooner coming in, and anchoring to the westward of me. I went on board and made every enquiry about her: she proved to be the British schooner *Napier* from St. Peter, Miquelon, bound to St. Anns. I then searched her and found a large quantity of liquors on board, secreted in several parts of the vessel. The captain having no clearance, or papers to prove the legality of its being on board, I then seized her for an infraction of the Customs law, putting a watch on board. I then reported to the Collector of Customs, and likewise to the Honorable the Minister of Customs, for instructions what to do with prize. I stayed in port, waiting an answer, when on the 6th I received an answer to release the vessel on bonds, condemn cargo, and take proceedings against the captain.

I received a telegram from Capt. Scott, stating that as soon as I had done with my seizure I was to proceed at once to the Strait of Canso, pay off crew, and deliver schooner up to the owner.

On the 18th, I made sail and proceeded to sea, cruising along shore, calling into Ingonish and Aspy Bays, but seeing no vessels in the vicinity of either place, I continued on my course, and at 7 p.m., rounded Cape North; and wind increasing to a gale, had to reduce sail. On the 19th, the weather continuing bad, I remained under short canvas until noon, when it became more moderate. I made all sail, and arrived in Port Hood, where I found several Colonial fishermen, but no Americans, they arriving the evening previous, through stress of weather. I remained in port on the 20th and 21st, through the inclemency of the weather and on the 22nd, I made sail and proceeded to Pictou, where I arrived at 11 p.m. During my passage to Pictou, I passed six sail of American fishermen, 5 miles off Cape Bear, in Prince Edward Island, but catching nothing. On the 23rd I paid off part of my crew, the remaining part I took with me to the Straits, they living there. On the 24th remained in port. At 8 p.m., Government steamer *Lady Head* arrived. On the 25th, I made sail and dropped down the harbor, and anchored off the coal wharf, abreast of the *Lady Head*, and embraced the opportunity of transferring all the stores, arms and ammunition on board of her. The first officer in charge promising to call for me at the Strait of Canso, on his way to Halifax, I immediately sailed for the Strait, where I arrived on the morning of the 26th, and after cleaning ship, I paid off the remaining portion of the crew, and delivered schooner to her owner.

Before closing this report, I would beg to draw your attention to the following particulars:—

I have every reason to believe, and I am informed by very reliable authority, that there is a very large amount of revenue lost through the very extensive illicit trade carried on through the intermediate ports between Cape North and Sydney Harbor, and I must say, our own vessels are the principal transgressors. It would require more than two or three cruisers, on the S.E. side of Cape Breton to put a check to the illicit trade carried on there. I would beg to remark that I have seen but very few Americans on our shores.

Annexed you will find a list of vessels boarded.

I have the honor to be, Sir,

Your obedient servant,

GEORGE MATSON,

Commander of Schooner "*Katie*."

To the Hon. PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

APPENDIX BB.

MARINE POLICE SCHOONER "STELLA MARIS,"
St. MICHEL, 4th December, 1872.

SIR,—In accordance with your instructions, I beg to submit the following report of the proceedings of the Marine Police Schooner *Stella Maris* for the season of 1872.

Having received my commission, I hasten to ship my crew, put stores on board, and prepare everything for sea as soon as possible. Just as I was ready to sail for the Magdalen Islands, where I was to meet *La Canadienne*, I received orders from your Department, that I should take on board 30 barrels of oil, etc., to be landed at the following Light-houses :—Cape Chatte, South Point of Anticosti Island, Cape Rae and Magdalen Islands. You were also pleased to order me to call at Fox Bay, Anticosti Island, to afford assistance if required, to the wrecked vessel *Royal Charter*, having on board a valuable cargo. Our departure was delayed up to the 18th May, when I left Quebec at 5 p.m. Owing to a continuation of easterly gales, I only reached Father Point on the evening of the 26th May. I found there Captain Kerr, acting as Agent for the Montreal Insurance Company, who had a permit to join the *Stella Maris*, to be landed at Fox Bay, Anticosti Island. I took him on board and sailed at once for Cape Chatte. On the evening of the 27th May, the wind from the eastward having increased to a gale, we were forced to seek shelter at the west end of Point-des-Monts. On the morning of the 29th May, I noticed a schooner which I took at once to be an American fishing vessel, setting trawls extending between 4 to 5 miles, and laid between 50 to 600 yards from the shore, between Point des-Monts and Trinity Bay. I watched her movements, and having set their trawls in the morning, they raised them in the afternoon, before me and part of my crew. Towards evening, they sailed down to Trinity Bay, where they set two more trawls close in shore. At 5 p.m., while two of her men were engaged in raising the two last set trawls, and taking advantage of the schooner being becalmed, I rowed along-side, boarded her, and having seen the vessel's papers, she proved to be the *Enola C.* of Gloucester, Mass., Captain Cunningham, 66 tons, and 12 men all told. She was halibut fishing; she had on board salt and about 2,000 pounds of halibut. I at once seized the vessel for having fished and being still fishing inside the three-miles limit. Captain Cunningham begged me to let him go for this time, saying this was his first offence. Two or three others of the crew asked the same favor. The captain then asked me to put him ashore at Trinity Bay, saying that he would not go to Quebec in his vessel, as he had nothing to say for his defence. I however persuaded him to come to Father Point, where I was going to telegraph and receive your instructions. I told him that I was doing my duty, and that I would be most happy to see his vessel returned to him. Shortly after the two men engaged in raising the two last set trawls, came along side; their boats were hoisted on deck, and the crew being divided, we sailed with the prize for Father Point. Captain Cunningham told me he had been induced to come so far up to fish by the captain of one of the McKay & Warner's schooners, who had made his load of halibut in a very short time the summer before. I heard afterwards, that before leaving Guysborough, Captain Cunningham had been warned by the commander of one of the Marine Police Cruisers, who knew his intention, not to expose his vessel. At the time of the capture, the *Enola C.* was in Trinity Bay, inside of two marine miles from shore by the following bearings: East Point of Trinity Bay, N. by E. $1\frac{1}{2}$ miles. West Point of Trinity Bay, W. by N., 2 miles. The two last set trawls were 150 yards from shore. On the morning of the 1st June, we anchored at

Father Point, and having telegraphed to you, I received instructions to proceed immediately to Quebec with the prize, and that the Government steamer *Druid* was ordered to meet me, and tow the capture up to Quebec. Before leaving Father Point, I was told by the officer in charge, that on the way up from Point-des-Monts to Father Point, some of the crew of the *Enola C.* had tried all in their power either by threats or rewards to induce my men to let them run away with the vessel. On the 2nd of June the prize was taken in tow by the Dominion steamer *Druid*, and my schooner was ordered to proceed as far as St. Michel, and wait for me there. On the 3rd we anchored at Quebec, and the vessel was handed over to your agent at Quebec, Mr. J. U. Gregory. I then left with my men, to join the *Stella Maris* at St. Michel. On the 5th, I remained at anchor at St. Michel, waiting for Captain Kerr, who had gone up to Montreal from Father Point, and was to join my vessel again, to be landed at Fox Bay, Anticosti. On the 6th I left for my destination, but contrary winds blew with such a violence, that I only reached Cape Chatte on the 16th of June. After about an hour's stay at Cape Chatte, I sailed again with a fair wind for Fox Bay, Anticosti Island, where I anchored on the morning of the 18th of June. I found everything in perfect order there. The cargo was nearly all out of the *Royal Charter*; no assistance was required. After a few hours there, I set sail for the South Point of Anticosti. On the morning of the same day, the 18th of June, at about 10:30 a.m. just as we were coming around the East end of Anticosti, I noticed a schooner that I took to be an American vessel, lying with her mainsail set, between the East end of Anticosti and Cormorant Point. As we came nearer the vessel, we began to discover some small pegs, used as buoys for trawls, set all around the vessel. On passing around her stern, I read her name to be the *James Bliss* of Gloucester; she was at anchor in 10 fathoms of water. I hove to, boarded her, examined her papers, and having ascertained that she was an American fishing vessel, I seized her. Before seizing the vessel, I told the Captain that without the least doubt his vessel was inside of $1\frac{1}{2}$ mile from shore; but in order to give him more satisfaction, I would measure the distance from his vessel to the shore. He answered that it would be only losing time; that he was sure that his vessel was inside of $1\frac{1}{2}$ miles from shore. I then took the following bearing: East Point of Anticosti E. $\frac{1}{2}$ N. $2\frac{1}{2}$ miles, Point Cormorant W. N. W. $\frac{1}{2}$ W. 4 miles; giving the distance from the vessel to the shore to be $1\frac{1}{4}$ miles. Her crew consisted of 12 men all told; she was halibut fishing. Captain McIsaac acknowledged he was wrong; that he had been warned before leaving Gloucester not to expose his vessel by fishing in Canadian waters. Having raised the five trawls set around the vessel, the crews were divided, and we set sail for the South Point of Anticosti, where the supplies we had for that place were landed during the night, and we sailed again from there with the prize, for Gaspé, where I had to call to receive your instructions. On the 20th we anchored at Gaspé, and having telegraphed to you, I was ordered to take the prize up to Quebec, with part of my crew, and let the *Stella Maris* sail at once, under charge of my first officer. I took seven men and an officer with me on board the *James Bliss* and sailed on the morning of the 21st for Quebec, while the *Stella Maris* left for her destination. On the 27th of June we anchored at Quebec, where the prize schooner *James Bliss* was handed over to your agent at Quebec, Mr. J. U. Gregory. On the 2nd of July, I left Quebec with my crew on board the steamer *Secret* to join the *Stella Maris* at Gaspé. On the morning of the 4th, we landed at Gaspé, where I found the *Stella Maris* just arriving from Cape Rae and Magdalen Islands. My first officer reported everything in perfect order at those two places. In the evening *La Canadienne* entered Gaspé Basin. I called on Commander Lavoie to receive my instructions.

My vessel was under repairs up to the 7th of July, when I set sail for Baie-des-Chaleurs, and *La Canadienne* for the coast of Labrador. On my way up, I noticed a schooner well off Point Maquereau. On the morning of the 18th, I anchored at Paspébiac. All was well there. Very few American fishing schooners had visited the place since spring. I found there one of the Dominion cruisers, the *Marshall*, Commander

Nickerson. Mackerel fishing was reported very poor in the Bay. Towards evening, I set sail for a cruise up the Bay, towards Carleton, where I arrived on the 10th. I found all well there. A new establishment for preparing lobsters in tins had just been put up. They were doing well. In the evening I made sail for a cruise down the Bay. I saw no American vessel on my way down to Gaspé, where I anchored on the morning of the 12th. On my arrival, I received instructions from your Department to proceed immediately to St. Paul, to protect the wrecked vessel *Adalia* from being plundered. On the morning of the 13th, left Gaspé for St. Paul's Island, where I anchored on the afternoon of the 14th. I found all well there; no assistance required for the present. Some of the Marine Police Cruisers had already called there, since the steamer *Adalia* went ashore. In the evening the Marine Police Cruiser *New England*, Commander Frost, anchored near me at St. Paul.

On the evening of the 15th, seeing that our presence was no longer necessary at St. Paul's Island we set sail to return to Gaspé.

On the afternoon of the 16th, I reached the Bird Rocks, with a light breeze that fell to a calm after I anchored there. I landed on the Island, where I found everything in perfect order. On the morning of the 17th, I left the Bird Rocks for the East end of Anticosti, where I anchored on the 18th. I went ashore and no American vessels were reported since the capture of the *James Bliss*. From the East end of Anticosti, I sailed for Fox Bay, where I anchored in the afternoon. I found all well there. No assistance required. The cargo of the *Royal Charter* was mostly all out. No American vessels reported. I sailed again for Point Esquimaux, where I arrived on the 20th. I found everything in order there. Ten families had just arrived from Magdalen Islands. Seal fishing had been poor, though some schooners had done very well. Cod-fishing was good, one vessel had just arrived with 600 quintals of codfish. The Magdalen Island people are induced to emigrate thence to the North coast of Labrador, for the following reasons:—At Magdalen Islands they pay a heavy rent for their land, and if they enter a harbor for shelter they have also to pay; on the contrary at Point Esquimaux, they have no rent to pay for their land, and free access to their spacious harbor. But the principal inducement for them to emigrate is on account of the great distance they have to go from Magdalen Islands to the seal-hunting or cod-fishing grounds, while at Point Esquimaux the fishing is right at their doors.

On the 21st I left Point Esquimaux for Perroquet Island, where I heard five vessels were fishing. At first I was told that they were Americans; they proved afterwards to be all belonging to Nova Scotia. From Perroquet Island I sailed for the West end of Anticosti; but the contrary winds blew with such violence, that we were forced to put back to Mingan harbor for shelter. I found all well there, not an American fishing vessel had called there since spring. I boarded there one vessel from the Maritime Provinces. On the 24th I left Mingan for Gaspé. On the 25th, when off the West end of Anticosti, I spoke to some fishermen who reported cod-fishing good. No Americans. In the evening I anchored at Gaspé, and took on board Mr. J. F. Whiteaves sent on behalf of the Natural History Society of Montreal, to make scientific researches in connection with the food of fishes &c., in the deep waters of the Gulf of St. Lawrence.

On the 27th of July we left Gaspé. The *Stella Maris* was kept cruising and the dredge was cast as often as possible between Percé, Bonaventure, Cape Desrosiers, and the West end of Anticosti Islands, up to the 20th of August, when I anchored at Percé at 9 a.m.

Just as I landed there, I heard that an American schooner, the *B. A. Baker*, Captain Quincy of Gloucester, Mass., had left Percé on the evening of the 18th of August, with two young girls from the place. At the request of the father of one of these two girls, you directed me to give chase to the vessel and try and rescue the unfortunate girl from her dangerous position. Having obtained a warrant and sworn one of my men as constable, I started in pursuit of the *B. A. Baker*, reported fishing on the Orphan Banks, some 25 or 30 miles from Percé.

On the morning of the next day, the 21st, I noticed a vessel on the Orphan Bank, with her mainsail set. I steered for her; rescued the unfortunate girl without any resistance; and returned to Percé where the girl was sent to her family.

On the 22nd of August, I left Percé for Magdalen Islands, Mr. J. F. Whiteaves still on board, where, after a rough passage, I arrived on the morning of the 24th. I found all well there. Very few vessels had followed the herring fishing in the spring. Spring mackerel fishing had been poor; cod-fishing was good. Ice had kept the season late. Seal hunting around the Magdalen Islands had been a complete failure. On the 25th I sailed across to House Harbor, where I boarded an American schooner, in for shelter. Not over ten American fishing schooners had visited Magdalen Islands since spring. The mackerel fleet was at the time around Prince Edward Island, where mackerel were abundant.

On the 26th of August, we left Magdalen Islands, with the intention to go and cast the dredge some 50 miles to the northward of the Bird Rocks. On the morning of the 27th, having run our distance by the Patent Log, and thinking that we were about the 300 fathoms line, we took a successful cast of the dredge. Then Mr J. F. Whiteaves decided to give up the dredging as it was getting too late in the season, and we steered for Gaspé to land him there. After a very rough passage we reached Gaspé on the 29th, where we landed Mr Whiteaves and his assistant.

On the 5th October I received a telegram from your Department to proceed immediately to Quebec with the *Stella Maria*. I hastened to obey your orders. After some necessary repairs were done to my vessel, and my account settled, I left Gaspé for Quebec on the 10th of October. On the 11th while putting back from Anticosti to Malbaie, in a gale of north-west wind, I lost my flying jib boom. Under small sails, I reached Malbaie, and the damage being repaired, I sailed again on the 13th for Quebec, where, after a very rough passage, I anchored on the 22nd October at 1 p.m. We at once set to work to land the stores, and the crew was partly paid off. On the 23rd the *Stella Maria* was returned to her owner, and the remainder of the crew paid off. Before concluding this report, I must say that very few American fishing vessels have frequented Bay-des-Chaleurs, Magdalen Islands, and the North Coast. They kept more on the shores of Prince Edward Island. Order and peace prevailed on the coast during the summer. The yield of the fisheries is about an average one; and, thanks to the effectual protection of the Government, enforced by your Department, our fisheries are certainly in a great state of prosperity.

I hope sir, that my services, though inadequate, will meet your approval. I annex to this report a list of the few vessels that I have boarded and seized during the season.

I have the honor to be, Sir,

Your most obedient servant,

LOUIS HONORIUS LACHANCE,
Commander of the Marine Police Cruiser Stella Maria.

To the Hon. PETER MITCHELL,
Minister of Marine Fisheries, Ottawa.

APPEN

GENERAL STATEMENT of Vessels boarded during the Season.

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessels.	Owners.	Masters.	Tons.	Men.	
Jenne Marie.....	Cimier Cheophile...	G. Joseph	26	8	Miquelon
Three Sisters	Gaspore	T. Decost.	39	8	do
Mattie S. Clark	Procter.	D. McGilvery.	70	11	Gloucester
Watchman	J. C. Adams	Heal	42	9	Camden
E. K. Kane	Whalen & Co.	Morrison	50	10	Salem
Commodore Foot					Gloucester
R. J. Evans	Morgan	Morgan	78	10	North Berryport.....
Golden Horn	John Bates.	F. Torry	47	12	Cohasset
Rio Grande	Bannister	Bannister	42	8	Provincetown
D. H. Mansfield	Williams	Williams	37	4	Gloucester
W. D. Daisby.....	M. B. Tower & Co.	T. W. Daisby	98	21	Boston
Gertie Lewis	G. P. Hodston	Lewis	72	16	Booth Bay
Chas. C. Dame	D. Saywood	Beverage	89	19	Gloucester
W. J. Dale	Dodd & Tarr	M. H. McNeil	69	6	do
Enola C.	Smith & Gott.	R. Cunningham	65	15	do
A. M. Howe	Eldrige & Statson	Wm. Frost	53	10	Chatham
Cadet	G. H. Smith	G. H. Smith	60	14	Gloucester
Laura A. Dodd	Layton & Co.	P. Malady	94	19	do
Onward	Stephen Steward & Abram B. Cox	Tremain	52	5	Isaac's Harbor
Selita A. Hendrie...	S. B. Morey	S. B. Morey	77	5	Deer Island
Maria Elizabeth	A. McGuire	A. McGuire	44	5	Guy'sborough
Sabine	T. L. Holmes	T. L. Holmes	50	4	St. Andrews
Mermaid	J. Roberts	J. Roberts	47	4	Gaspé
Tidal Wave	R. Pew	J. Goslin	61	11	Gloucester
Dalia Hodgkins	E. M. Dyer	J. E. Carlsline	95	11	Provincetown, Mass
Attie B. West.....	Shoot & Merchant	R. H. Hulbert	38	14	Gloucester
Sarah	P. Doyle	P. Doyle	48	3	Port Hood
Webster	Seth Grant & Silas P. Grant	Silas P. Grant	52	14	Cape Porpoise
Anner Lewis	David Warren	C. B. Sawyer	52	12	Deer Island
Laut	Aaron D. Wells	Robert Allen	53	13	Gloucester
Adden Story	John J. Rowe	John J. Rowe	61	14	do
Abigail	George Dennis	Richard Annen	31	8	do

DIX CC.

of 1872, by Officers in command of the Marine Police.

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1872.			
June 18	Magdalen Islands...	Jas. A. Tory, Com. Schr.	
do 18	do	J. W. Dunscomb	Fishing supplies; came in for bait.
July 24	Louisburg	do	do do bound to Banks; wanted men.
Aug. 19	Canso	do	220 qntls. codfish; from Quero; wanted bait and water.
do 26	Sydney	do	Fishing supplies; wanted bait and ice.
do 27	do	do	This vessel attempted to run from us and got outside of limits; did not board her.
do 30	Ship Harbor	do	Fishing supplies; in for shelter; bound to Bay:
do 31	do	do	187 brls. mackerel; Bay Chaleurs.
do 31	do	do	600 qntls. codfish; Bank Bradley.
Sept. 9	Sydney	do	Sundry goods; seized her for violation of Revenue Laws.
do 13	Cape North	do	430 brls. mackerel; Bradley; came in to fish; ordered off.
Oct. 5	Sydney	do	240 brls. mackerel; Prince Edward Island and Magdalen Islands.
do 5	do	do	250 brls. mackerel; Prince Edward Island and Magdalen Islands.
do 22	do	do	Fishing supplies and merchandise; bound to Newfoundland.
do 26	Guysborough	do	340 brls. mackerel; Prince Edward Island and Magdalen Islands.
do 26	Canso	do	160 qntls. codfish; Middle Bank; in for repairs.
do 26	do	do	340 brls. mackerel; Prince Edward Island and Magdalen Islands.
do 26	do	do	360 brls. mackerel; Bradley and Bay Chaleurs.
June 15	Port Hood	Wm. T. Frost, Comm'r Schr. <i>New England</i>	Trader from Halifax, with general cargo for Labrador.
do 22	Port Hawkesbury...	do	Cargo of flour for ports on the coast of Cape Breton.
do 22	Port Mulgrave	do	General cargo, from Halifax, for different ports on the coast.
July 1	do	do	From St. Andrews, N.B., on a trading voyage.
do 1	do	do	From Halifax, N.S., in ballast, bound for Gaspé.
do 17	Port Hood	do	Making preparations for mackerel fishing.
do 18	do	do	Making preparations for fishing. The captain informed me the owners gave him instructions to beware of the cutters.
do 24	do	do	Just arrived from Gloucester; preparing to fish on the coast of Prince Edward Island.
do 25	Port Hastings	do	From Halifax, with a general cargo, for Port Hood and Cape Mabou.
do 31	Port Hood	do	Landed 217 brls. mackerel in Steep Creek, Strait of Canso, caught at East Point, P. E. Island.
Aug. 1	do	do	Landed 112 brls. in Canso in four weeks, and had caught 60 brls. in eight days at East Point, P. E. Island. Not satisfied with catch.
do 1	do	do	Caught 198 brls. in four weeks on P. E. Island coast, and not satisfied with catch.
do 1	do	do	Just arrived from Cape Ann, and bound for the Magdalen Islands, mackerel catching.
do 1	do	do	Put into Port Hood on account of stress of weather, having been fishing at East Point; caught 40 brls. in three weeks.

GENERAL STATEMENT of Vessels boarded during the Season of 1872,

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessels.	Owners.	Masters.	Tons.	Men.	
Lois.....	H. F. Pitman	James Cass.....	69	13	Marble Head.
Eldorado	Rich & Co.....	T. Parsons	74	15	Boston
B. A. Baker	Thompson	Quincy	54	14	Gloucester.....
Olive Clarke.....	Elson & Co.....	Mackintosh	63	12	Provincetown
Enola C.....	Smith & Gott.....	Cunningham.....	65	15	Gloucester.....
Wm. H. Foy	Smith & Gott. .	Sewel Smith.....	70	12	do
White Fawn	G. Friend & Co.....	McAfee	64	15	do
Attie B. West.....	Shoot & Merchant ..	R. H. Hulbert.....	58	14	do
Bay State	Leighton & Co.....	McClain	52	13	do
Fanny R.....	D. G. Ellen	Goram Paison ..	55	15	do
Golden Eagle.....	John Fields	A. Switcher	49	12	Deer Island
Della Hodgkins.....	E. M. Dyer	J. E. Carline	95	11	Provincetown.....
T. L. Mayo	Dodd, Toy & Co....	J. Dodd.....	62	12	Gloucester.....
Col. Ellsworth.....	Oliver H. Howard..	Oliver H. Howard..	82	14	do
Sarah Elwell	Peter Nichols.....	James Brown.....	36	5	do
Tookotita	F. R. Reid	F. R. Reid	61	15	Booth Bay.....
Etta Gott	Smith & Gott.....	Edward Smith.....	49	14	Gloucester.....
Idella Small.....	Robins	Grisdavis	62	15	Deer Island
John H. Kenedy ...	Isaac B. Webber....	I. B. Webber	50	15	Waldboro'.....
D. H. Mansfield...	Geo. Plummer.....	G. S. Williams	37	4	Gloucester.....
Samuel Crowel	Parsons, Jun.....	Hamilton	61	16	do
Electric Flash	McDonald & Co....	John McDonald	82	17	do

by Officers in command of the Marine Police.—*Continued.*

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1872.			
do 2	Port Hawkesbury...	Wm. F. Frost, Comm'dr	Caught 176 brls. in four weeks, an average catch with the fleet off East Point.
do 7	McNear's Cove	Schr. <i>New England</i> ,... do	Making preparations for mackerel fishing in George's Bay.
Aug. 24	Port Hawkesbury...	do	From Percé, having caught 264 qntls. of cod in eight weeks. Stopped the same vessel for taking girls away from Percé, against their parents' wish.
do 29	Arichat	do	In a leaky state; from the Banks of Newfoundland, having caught 800 qntls. of codfish in four weeks.
Sept. 2	Port Hood	do	Just arrived on the coast, and bound mackereling in the Bay.
do 2	do	do	Just arrived, and preparing for halibut fishing.
do 4	do	do	Caught 130 brls. mackerel in six weeks. Not satisfied with the catch. Said the cutters kept them off shore too far to do much at fishing.
do 4	do	do	Caught 163 brls. mackerel in five weeks, having caught the most of them on the Prince Edward Island shore and Magdalen Islands. Informed me that there was not any prospect of doing anything in the bay, on account of the cutters.
do 4	do	do	Caught 180 brls. in three weeks, having caught the greater part off East point of Prince Edward Island. Complaining of not having the privilege of fishing inshore, along the coast.
do 5	Port Hawkesbury ..	do	Caught 170 brls. in five weeks, off Miscou. Complaining of not having the right to fish along shore.
do 5	do ..	do ..	Caught 160 brls. in five weeks, off Miscou. Not satisfied with catch.
do 16	Port Hood	do	Caught 310 brls. in eight weeks, off East Point. Informed me of about 40 vessels fishing at East Point.
do 16	do	do	Just arrived on the coast, and preparing to fish in the bay.
do 16	do	do ..	Having caught 570 brls. in eleven weeks, off East Point, and landed 212 brls. during that time; appeared satisfied with catch.
do 16	do	do	Detained for having on hand dutiable goods exposed for sale. Released on the 17th, by order of the Customs Department, Ottawa, on account of no positive proof of her having been found smuggling.
do 19	do	do	Having landed 280 brls. mackerel in Strait of Canso, in six weeks. Just arrived, and on the second trip, having caught the principal part at East Point, Prince Edward Island.
do 19	do ..	do ..	Caught 100 brls. mackerel in five weeks, at East Point. Complaining of not being allowed to fish on any part of the coast.
do 19	do	do	Having been seven weeks in the bay, and caught 270 brls. mackerel off East Point, complains of hard luck, not being privileged to fish inshore.
do 19	do	do	Just arrived in the bay. Caught but 10 brls.
July 29	do	Geo. Matson, Com. Schr.	
		<i>Katie</i>	Was fishing about a week; had taken nothing. Put in for a crew.
do 31	do	do ..	Pound to the Bay, from Gloucester.
Sept. 2	do	do ..	From Gloucester, bound fishing.

GENERAL STATEMENT of Vessels boarded during the Season of 1872,

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessels.	Owners.	Masters.	Tons.	Men.	
Charger	David Lowe & Co.	Daniel McKinnon...	53	15	Gloucester.....
Geo. S. Fogg	B. S. Wright.....	Jonathan Collins ...	103	18	Boston
Diploma	A. P. Hodgson	A. H. Pinkham.....	75	17	Booth Bay
Abdon Keene.....	Keene & Co.....	W. C. Keene	53	15	Bremen
Yosemite.....	Geo. Brown & Co.	Nath. Latham.....	71	12	Gloucester.....
Lant.....	A. D. Wells.....	Robt. Allen	53	13	do
Tidal Wave	Chas. H. Pugh.....	Joseph Goolin	72	18	do
Path Finder.....	Cushing & Co	Jas. Cushing	67	16	do
Etta Gott	Silo Smith.....	Edwin Smith.....	59	14	do
Laura A. Dodd.....	Leighton & Co.	P. Malada.....	94	14	do
Chas. C. Dame.....	Seward.....	Beveridge	89	19	do
Getty Lewis.....	G. P. Hodgson ...	Wilson Lewis	72	16	Booth Bay
Enola C.		Cunningham	66	12	Gloucester.....
James Bliss ..		McIsaac	62	12	do
B. A. Baker.		Quiney.....	37	8	do
D. H. Mansfield		Banson.....	27	4	do
Edz. J. Babson.....	J. Cusheon	J. Cusheon	70	17	do
Lucy Cutter.....	C. Merrill	C. Merrill.....	54	15	do
Cataler.....		A. Carroll.....	57	15	do
Alice.....	J. Brown.....	E. J. Love	60	15	Salem, Mass.....
Martha T. Pike	Burrell & Co.	G. Howard.....	80	17	Newburyport.....

by Officers in command of the Marine Police.—*Concluded.*

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1872.			
Sept. 2	do	Geo. Matson, Command'r	From East Point, Prince Edward Island; four weeks out; catch, 100 brls.
do 2	do	Schr. <i>Katie</i>	Was fishing between North Cape and Miscou Point; four weeks out; catch, 275 brls.; will return to the Bay again.
do 2	do	do	From East Cape; five weeks out; catch, 200 brls.; considerable quantity of mackerel going, but won't take.
do 11	Off Eddy Point.....	do	From the Magdalen Islands, bound home; five weeks out; catch, 206 brls., and 1½ qntls. of codfish.
do 11	In Strait of Canso ..	do	From Gloucester, bound to Mingan Bank.
do 12	Port Hood.....	do	From East Point; put in for wood and water; five weeks out; catch, 150 brls.; was fishing at Cape North and Miscou.
do 13	do	do	From East Point, bound home; eight weeks out; catch, 280 brls. Can't do anything unless allowed to fish inshore.
do 19	do	do	Fishing off East Point; two weeks from home; catch, 70 brls.; had to run for a harbor; reports about 70 sail off East Point.
do 29	Off Margaree	do	From East Point, seeking bait; six weeks out; catch, 160 brls.; reports nothing doing at the Magdalen Islands.
do 30	do	do	Was fishing off East Point; seven weeks from home; catch, 305 brls.; reports nothing doing at the Magdalen Islands.
Oct. 4	Sydney, C.B.	do	Was fishing at the Magdalen Islands; was blowing off shore; ran for a harbor and to obtain supplies.
do 4	do	do	From the Magdalen Islands; was forced to run for a harbor; lost an anchor and 30 fathoms of chain; could do nothing on account of the weather.
May 29	Pointe des Monts ...	L. H. Lachance, Com. Schr. <i>Stella Maria</i>	Seized for fishing with trawls inside of two miles from the shore of Trinity Bay (Point des Monts). Had on board at the time 2,000lbs. of halibut and salt.
June 18	Anticosti Island	do	Seized for fishing with trawls inside of 1½ miles from the shore of Anticosti Island, between Point Cormorant and the East Point of Anticosti Island.
Aug. 21	Orphan Bank.....	do	Left Percé on the 20th, in pursuit of the said <i>B. A. Baker</i> . Overtook her on the 21st. Rescued a young girl from Percé, who had gone from there on board the said vessel, against her parents' will, on the afternoon of the 18th. Returned with her to Percé, when she was sent to her parents.
do 25	Magdalen Islands...	do	40 brls. mackerel; in for shelter.
July 17	Paspebiac	D. M. Browne, Com. <i>Peter Mitchell</i>	70 brls. mackerel in ten days.
do 22	do	do	15 brls. in one week.
do 22	do	do	20 brls. in one week.
Aug. 14	do	do	85 brls. in ten days.
Sept. 15	Miramichi Bay.....	do	408 brls. in six weeks, principally on the Orphan Bank.

APPEN

SCHEDULE of Vessels seized by Imperial and Canadian Cruisers for violation

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Wampatuck	40	Mr. Goodwin	Plymouth, U.S.	{ 27 June, 1870 J. A. Tory, Sch. Ida E.	{ About 1½ miles from the shore, off the North coast of Aspy Bay, Cape Breton.
J. H. Nickerson ..	70	Mr. McDonald	Salem, Mass., U.S. ..	{ 27 June, 1870 J. A. Tory, Sch. Ida E.	{ Within 3 cables' length of the shore on east side of In- gonish Bay, N.S., and immediately inside of Ingonish Island.

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Minnie		Mr. Campbell.....	Halifax, N. S.	{ 28 July, 1870 Jas. A. Tory, Sch. Ida E.	{ Aspy Bay, Cape Breton.
Lettie	57	{ Mr. McGowan, owner; Mr. Bee- man, Master.	Prince Ed. Island ..	{ 18 Aug., 1870 H. E. Betts, Sch. Ella G. McLean.	{ Half a mile off the Light inside Gaspe Harbor, Province of Quebec.
Lizzie A. Tarr....	63	Messrs. Tarr Brothers.	Gloucester, Mass., U.S.	{ 27 Aug. 1870, N. Lavoie, Schooner La Canadienne.	{ About 350 yards from the shore in St. Margaret's Bay, North shore of Gulf of St. Law- rence, Province of Quebec.....
A. H. Wanson ...	63	Mr. Webber.....	Do	{ 3 Sept., 1870. J. C. E. Car- michael, Sch. Sweepstake.	{ Less than 2 miles south of Seawolf Island, and within 3 miles of the shore of Cape Breton. N. S.
H. W. Lewis.....	31	M. Watson.....	Halifax, N. S.	{ 17 Sept., 1870 J. C. E. Car- michael, Sch. Sweepstake.	{ At Henry Island, near Port Hood, N. S.
A. J. Franklin ...		Mr. Nass.....	{ Gloucester, Mass., U.S.	{ 15 Oct., 1870, Jas. A. Tory, Sch. Ida E.	{ Within 2 miles of the shore in Broad Cove, Cape Bre- ton, N. S.

and Canadian Cruisers, &c.—*Continued.*

Whether hovering in port without cause, trading, &c.; actively fishing, having fished, or preparing to fish.	When and how tried, and with what result, and if defended by Counsel.	How disposed of.
Violation of the Customs' laws, having entered Aspy Bay (not being a port or place of entry) with dutiable goods on board, not being compelled to do so by stress of weather or unavoidable cause; landing goods; trying to evade the cutter's boat when boarding; and ultimately attempting to run down her captor.	Defendant fined \$800 and costs. Appealed. Defended.	Unsettled.
At time of capture was fishing inshore, on the coast of Gaspe; had fished for seven days previously within prohibited limits; had been boarded and warned; seized on the ground of apparent ownership by a foreign subject; the papers produced by the Master rendering her liable to seizure either for an infraction of the Merchant Shipping Act, or for violating the Act relating to fishing by foreign vessels.	In course of litigation in Courts of New Brunswick. Defended.	Unsettled.
Anchored at West point of St. Margaret's Bay, near Seven Islands, St. Lawrence coast, West of Mount Joly, about 350 yards from the shore. Five fishing boats were alongside the vessel, crew having just returned from tending their lines, which were set between the vessel and the main land. Six halibut were found on the lines. Master admitted that the owner of vessel had directed him to go and fish there, as the Government cutter was seldom seen in these places; and some of the crew stated that if they had had a good spy-glass they would not have been caught.	Tried in Vice Admiralty Court at Quebec. Vessel condemned. Defended.	Sold for \$2,801; money paid to Credit of Receiver-General, after deducting costs and charges.
Actually fishing; catching mackerel, and throwing bait within a third of a mile from land at Broad Cove, Cape Breton. When boarded had four lines over the rail in the water, several of the hooks being freshly baited, and scales of fresh mackerel on deck. When approached by cutter, the "A. H. Wanson" threw overboard round mackerel, in order to destroy this part of the proof; had been previously boarded and warned.	Tried in Vice-Admiralty Court, Halifax. Vessel condemned. Defended.	Bail for \$3,500 forfeited, and now in course of recovery.
Seized for violation of Revenue laws, having on board two or more large casks of liquor, besides other goods not on the manifest.	Vice-Admiralty Court, Halifax. Defended.	Unsettled.
At time of boarding, mackerel lines were coiled upon schooner's rail, being wet and dripping; hooks freshly baited; fresh fish-blood and fresh mackerel gills and scales on deck, with every appearance of bait having just been gathered up and cast overboard. The Master denied having fished there within the limits, whereupon Com. Tory desisted from seizing the vessel, but informed the Master that should he find he had not told the truth, he would seize her at a future time. On personal enquiry being made of the British vessels which had been fishing in the same place and at the same time with the "A. J. Franklin," it was ascertained that she had been fishing alongside of them, within the three miles' limit, when first boarded. She was consequently seized on the 15th of October, having been warned on the 7th of the same month.	Tried in Vice-Admiralty Court, Halifax. Vessel condemned. Defended.	Bail forfeited, and now in course of recovery.

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Granada		Mr. Paine	{ Provincetown, Mass., U.S.	{ 25 Oct., 1870 J. A. Tory, Sch. Ida E.	{ Port Hood, Cape Breton, N. S.
Romp	20	Mr. Oliver	Eastport, Maine, U.S.	{ 8 Nov., 1870. A. Betts, Schr. Water Lily.	{ Oliver's Wharf, Back Bay, Charlotte Co., N.B.
White Fawn	64	Mr. Marshall	{ Gloucester, Mass., U.S.	{ 25 Nov., 1870 A. Betts, Schr. Water Lily	{ Head Harbor, Campo-Bello, N.B.
Perseverance	21	Mr. Thorpe	Eastport, Maine, U.S.	{ 12 Jan., 1871 A. Betts, Sch. Water Lily.	{ About 200 fathoms from Fry's Island, in Bliss Harbor, Co. Charlotte, N.B.
S. G. Marshall ...	53	Mr. Marshall	{ Rustico, Prince Edward Island.	{ 31 July, 1870 Capt. Hardinge, H.M.S. Valorous.	{ Near the beach in Gaspe Bay
Clara F. Friend...	70	Mr. Grady	{ Gloucester Mass., U.S.	{ 1870. Capt. Poland H. M. S. Plover.	{ 1 mile off Long Point, near East Point, P. E. I.
Albert	90	Mr. Banks	Barrington, N.S. ...	{ 20 Aug., 1870 Capt. Hardinge, H.M.S. Valorous.	{ Charlottetown, P. E. I.

and Canadian Cruisers, &c.—*Continued.*

Whether hovering in port without cause, trading, &c.; actively fishing, having fished, or preparing to fish.	When and how tried, and with what results, and if defended by Counsel.	How disposed of.
Vessel at anchor in Port Hood, and without any clearance papers. Had on board 1 puncheon of molasses, 3 casks paraffine oil, 8½ boxes tobacco, 1 case rubber boots, 1 cask gin, 1 bundle oil-cloth, 2 chests tea, 12 nets, 10 coils rope, 4 bundles and 2 coils lines, 1 bundle corkwood, 7 gross hooks, 1 box scales, 20 barrels flour, 1 bundle marline, 3 dozen cod-leads, 16 bushels potatoes, 3 barrels beef, 1 barrel pork, 2 tubs butter, and other stores, besides a large quantity of salt; all of which stores, owing to the advanced period of the season, were in excessive quantity for ship's use, and unnecessary for a fishing voyage, but just usual cargo for a trading voyage. The fishing-gear found on board was not only new, but had never been fitted or used. The vessel had entered Port Hood, not being compelled to do so by stress of weather, or any other urgent cause; the weather was moderate during the whole of the day on which the seizure was made, and if the vessel had been really bound (as pretended) for the Bay of Islands, she had a fair and steady wind for her course, and was out of her track in this harbor. The packages of goods were fresh and unbroken.	Taken to Halifax for adjudication. Vessel bonded.	Unsettled.
Having on credible testimony, and on the subsequent admission of the Master, fished and caught about 50 barrels of herring on and before the 5th of November, 1870, at the mouth of Grand Harbor, at the place called Three Islands, near Grand Manan, in Canadian waters, and within three miles of the land	Tried at St. John, N. B., in Vice-Admiralty Court. Vessel condemned. Undefended.	Sold for \$270.
Preparing to fish at Head Harbor, a small bay in the eastern part of Campo Bello, N. B., by purchasing herring as bait.	Tried at St. John, N. B., in Vice-Admiralty Court. Monition refused on ground of there being no evidence of intent to fish in British waters.	Released.
Actively fishing at Bliss Harbor, N. B., within three miles of the coast, and having nets set therein at time of capture.	Taken to St. John for adjudication. Condemned.	Sold for \$165.
Vessel was owned by Mr. Hall, an American citizen doing business in Charlottetown; was illegally registered, and wearing English colors to cover her prosecution of the inshore fishery. Master had hauled his seines on several occasions at Sandy Beach, Gaspé Basin, and landed large numbers of young cod fish, which were useless to him.	Tried at Charlottetown, P. E. I., in Vice-Admiralty Court. Vessel condemned. Defended.	Sold for \$2,775.95. Bought for Canadian Government, and since employed as a cruiser.
Actively fishing within a mile of the shore, in the midst of a large fleet of schooners. Had been previously boarded, and warned several times.	Taken to Charlottetown for adjudication. Rescued by crew and recaptured. Defended...	No advices of result.
Infraction of the 45th Article of the Merchant Shipping Act.	Tried at Charlottetown, in Vice-Admiralty Court. Vessel condemned.....	No further advice.

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Samuel Gilbert. . .	51	Richard Hanan.	{ Gloucester, Mass., U.S.	{ 24 July, 1871 N. Lavoie, Schooner La Canadienne.	{ About two miles N.W. by W. from Perroquet Island, near Mingan, on the North Coast of the Gulf of St. Lawrence.
Franklin S. Schenck	46	Alden B. Grimes. . .	Rockport, Mass, U.S.	{ 16 Aug. 1871 DM. Browne Schooner New Eng- land,	{ Roadstead of Pas- pebiac in the Bay des Chaleurs, Pro- vince of Quebec.
E. A. Horton.	100	{ Messrs. McKenzie and Knowlton,	{ Gloucester, Mass., U. S.	{ 1 Sept., 1871, James A. Tory, Schr. Sweepstake	{ Off Morristown Chapel, Anti- gonish Bay, N.S., within a mile of shore.
En'ra C.	66	Richd. Cunningham.	do	{ 29 May, 1872 L. H. La- chance, Sch. Stella Maris	{ Less than two miles from the shore in Trinity Bay, North Shore of Gulf of St. Lawrence, Pro- vince of Quebec.

and Canadian Cruisers, &c.—*Continued.*

Whether hovering in port without cause, Trading &c., actively fishing, having fished, or preparing to fish.	When and how tried, and with what results, and if defended by Counsel.	How disposed of.
At the time of capture, schooner was taking fresh cod fish on board from one of her flats alongside. Two of her boats were actively fishing at a distance of 450 yards from shore, and men on board were in the act of hauling in their lines with fish caught on their hooks. When seized, boats were half-full of freshly caught cod fish, and had also on board fishing gear used for cod fishing. Owner admitted having fished, but pleaded as an excuse that he was under the impression that the provisions of the Washington Treaty were in operation.	Tried in the Admiralty Court at Quebec. Vessel condemned.	Vessel released for costs.
Actually fishing at a distance of 280 fathoms from shore. Herring and mackerel found in the owners' nets at time of seizure. Captain at first denied that the nets were his, but afterwards admitted the offence, and pleaded as an excuse, that a man whom he met on the beach of Paspebiac on the previous evening had set the nets, with one of the schooner's crew, on the understanding that the fish caught should be purchased for the vessel. When asked who the shore man was, captain replied that he did not know his name or his residence. After careful inquiry on shore among the fishermen and residents of Paspebiac, no traces whatever could be found of any resident of the place having assisted to set the nets.	Vessel taken to Quebec for adjudication.	Released on bond.
Actively fishing at time of seizure; captain and a number of his men admitted the trespass. Had on board about 8 barrels of mackerel newly split and salted, and with blood still fresh upon them.	Vessel taken to Guysboro' and placed under charge of Collector of Customs at that port.	Stolen by United States citizens during the night of the 8th October, 1871, from the dock and storehouse of Mr. Thomas Condon, who, although engaged by the Collector of Customs to watch and safely keep the property, allowed it to be clandestinely removed.
Actively fishing at time of capture; had been fishing all day with trawl nets set from 50 to 600 yards from shore, and extending 5 or 6 miles along the coast between Point des Monts and Trinity Bay. When captured, vessel was becalmed inside of two miles of Trinity Bay; had on deck two fresh caught halibuts, and two of her men were at the time engaged raising two trawls set close in Trinity Bay. On their coming alongside of vessel, it was ascertained that they had two halibuts in their boat. Master admitted having committed the offence, but begged hard to be let off, on account of this being his first offence. Had been warned before coming to Trinity Bay not to fish within limits. At time of seizure vessel had on board a cargo of about 2,000 lbs. of halibut and salt.	.....	Sureties discharged.

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
James Bliss.....	62	Allan McIsaac.....	{ Gloucester, Mass., U. S.	{ 18 June, 1872 L. H. Lanchance, Sch. Stella Maris	{ Within 1½ miles of the East end of Anticosti Island, in the Gulf of St. Lawrence, Pro- vince of Quebec.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, OTTAWA, 1873,
(Certified),

W. F. WHITCHER,
Commissioner of Fisheries.

and Canadian Cruisers, &c.—*Concluded.*

Whether hovering in ports without cause, trading, &c. ; actively fishing, having fished, or preparing to fish.	When and how tried, and with what result, and if defended by Counsel.	How disposed of.
At time of capture was anchored within 1½ miles from shore, between Point Cormorant and the East end of Anticosti Island. Actually fishing for halibut with five trawl nets set around the vessel, between 50 yards and 1½ miles from shore, and had been fishing there for three days previous. Master acknowledged the offence, and stated that he had been warned by his owners not to expose their vessel.		Sureties discharged.

P. MITCHELL,

Minister of Marine and Fisheries.

ERRATA.

At page 147, third line from the bottom, instead of Lake Huron, read Lake Erie

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